HOSPITAL Topics

GRAPHIC REPORTING ON TODAY'S HOSPITAL PRACTICES

FRANK PRENTZEL JR. (see page 3)

Coupon Book Cuts Costs in Ohio Hospital
page 22

Job Classification Aids Nursing Personnel Utilization
page 27

Principles of Pediatric Rehabilitation
page 75

BUYER'S GUIDE
Page 52

FEBRUARY | 1957

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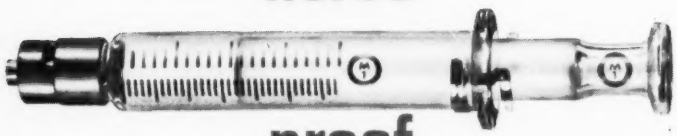

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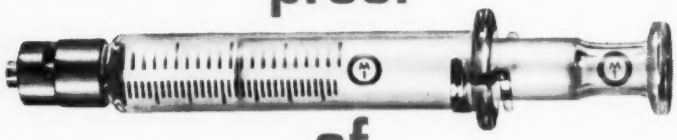

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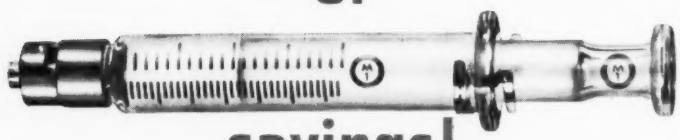

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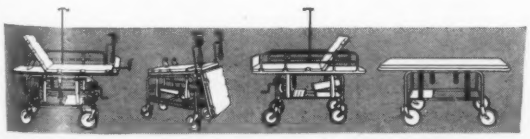

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HOSPITAL Topics

GRAPHIC REPORTING ON TODAY'S HOSPITAL PRACTICES

FEBRUARY 1957, VOL. 35, NO. 2

FEATURES

Report on American Association for Advancement of Sciences 17

Abstracts of selected papers:

Heparin Made Radioactive at New York College
Harold B. Eiber, M.D., and Isidore Danishefsky, M.D.

New Legislation Affecting Drugs Gives Pharmacy More Responsibility
Louis E. Kazin

Pediatrics — See page 75

Central Supply — See page 107

Report on American Academy of Dermatology and Syphilology 19

Abstracts of selected papers:

Substance Injected Beneath Scar as Treatment for Deep Pit Marks
Arthur S. Spangler, M.D.

Seborrheic Disease Aided by Excess Water in Tissues
Paul A. O'Leary, M.D., and John T. Ingram, M.D.

Report on Radiological Society of North America 21

Abstracts of selected papers:

Clue in Acute Appendix Attacks Found by X-ray Examination
David S. Carroll, M.D.

Destroy Pituitary Gland in Breast Cancer Cases
Rollin K. Coombs, M.D.

Coupon Book Cuts Costs in Ohio Hospital 22

Well-Placed Windows Let Visitors View Often-Hidden Departments 24

The Nursing Problem 27

Job Classification to Improve Nursing Personnel Utilization
Frank C. Frantz

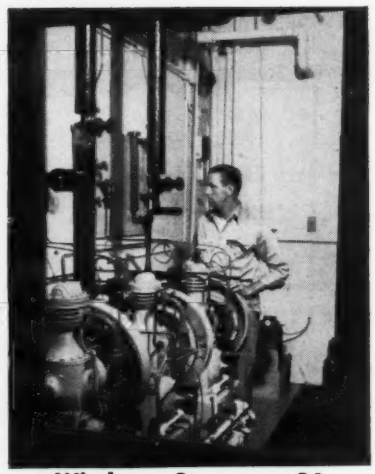
Medical Staff Organization 30

John H. Gorby

Consultant's Corner 33

Ready Reference of Hospital Facts 34

Facts on the average mental hospital in the U.S.
Louis Block, Dr. P.H.



Windows—See page 24

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Published by THE HOSPITAL BUYER CO., Inc., 30 West Washington St., Chicago 2, Ill. Telephone: DEarborn 2-5148. Subscription rates: one year, $3.50; three years, $8.00; single copy, 50 cents. Canadian and foreign subscriptions: one year, $4.50; three years, $10.00; single copy, 65 cents. A monthly publication. Entered as second class matter at the Post Office, Chicago, Ill.

DEPARTMENTS

Scanning the News 7

News Briefs at Press Time 9

Calendar of Coming Events 10

Review of Hospital Lawsuits 40
Leo T. Parker

Hospital Trends 43
Hospital Personnel
Louis Block, Dr. P.H.

Trade Topics 46

Hospital Accounting and Statistical Problems 49
David H. Tarlow, C.P.A.

Personally Speaking 50

Buyer's Guide 52

O. B. Department 63
Training for Premature Infant Care

Book Corner 72

Pediatrics 75
Pediatric Rehabilitation

The Lab 81

Central Supply 107
What Student Nurses Gain From CSR Experience

Prescription Pad 112

Clinical Notes 114

OPERATING ROOM

East Texas A.O.R.N. Meets 83

Dangers in Surgical Suite Air-Conditioning 84
R. A. Phelps

Postoperative Infection from Air-Borne Contamination 85

Eliminating Air-Borne Bacteria with Chemical Humidity Conditioning 86
Dorothy W. Errera, R.N.

A Development Program for the O.R.S. 89
Jerry E. Walsh

Ethylene Oxide Sterilization Practicable for Hospitals .. 92
Carl W. Walter, M.D., Richard D. Castle, B.S., Robert L. MacDonald, B.S.

O. R. Question Box—Carl W. Walter, M.D. 96

PERSONALITY OF THE MONTH

THE REV. Frank Prentzel, Jr., D.D., who presides over the annual meeting of the American Protestant Hospital Association in Chicago this month, has been executive secretary, Methodist Episcopal Hospital, Philadelphia, since 1947.

He was also director of the hospital until May, 1955, when he took over full responsibility for public relations and fund-raising, and another man was appointed to be responsible for the administration.

A graduate of the University of Pennsylvania, Dr. Prentzel received a B.D. degree from Drew Theological Seminary, and a doctor of divinity degree in 1946 from Dickinson College.

Before entering the hospital field, he was a pastor of churches in and around Philadelphia (from 1922-1941), and district supervisor of the Northwest district, Philadelphia Annual Conference of the Methodist Church.

He has been recording secretary of the Board of Hospitals and Homes of the Methodist Church since 1948. From 1954 to 1956 he served as recording secretary, Philadelphia Hospital Association, and he has been a member of the Hospital Council of Philadelphia since 1947. He is a member of the American Hospital Association, the American College of Hospital Administrators, the National League for Nursing, and the Philadelphia Eye Bank.

He served overseas in World War I and is a member of the American Legion as well as being active in Masonic organizations, the Rotary Club, Pen and Pencil Club, the Union League of Philadelphia, and the Artisans Order of Mutual Protection.

Dr. Prentzel is married to the former Mary Rhoades Broomell. For relaxation he engages in sports, and likes to read.

COMING NEXT MONTH

Reports on:

AMA Congress on Medical Education and Licensure

American Academy of Orthopaedic Surgeons

Association of Operating Room Nurses

TOPICS GOES CALLING . . . on two Puerto Rico hospitals

Medical Staff Organization—Part III

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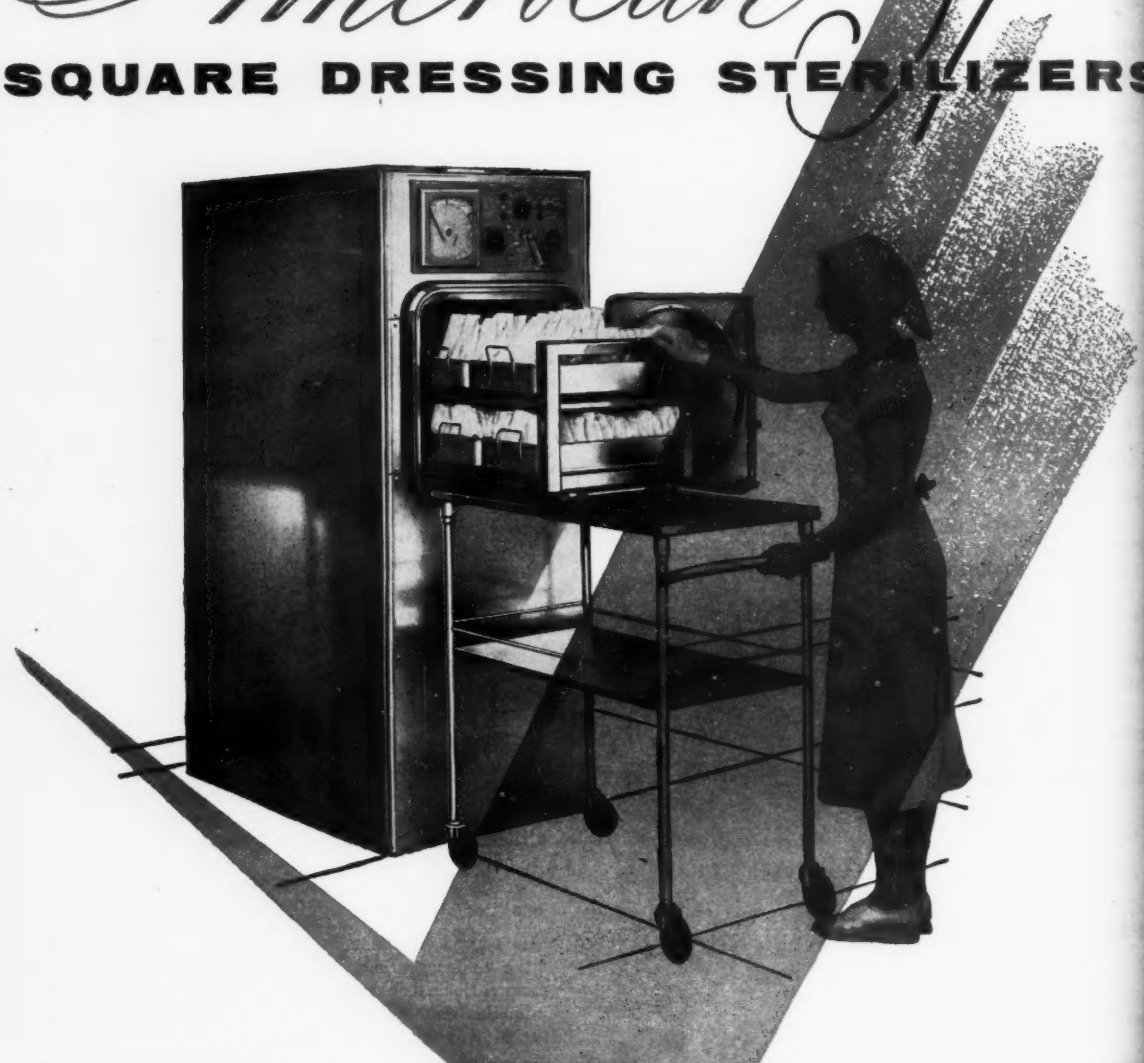

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HOSPITAL Topics
The News Magazine for the Hospital Staff

FEBRUARY, 1957
VOL. 35, NO. 2

Scanning the News

Addicts' Fear of Withdrawal May Be Misconception

Narcotics addicts' fear that withdrawal will cause physical agony may be a misconception, Lee G. Sewall, M.D., reports in the *American Journal of Psychiatry*.

Dr. Sewall, head of the VA neuropsychiatric hospital, Leech Farm, Pa., reports that Chicago police have found that much of the illicit heroin is greatly adulterated, so that the physical effects of withdrawal are frequently negligible.

Fear and "emotional need" will drive an addict to seek narcotics at any price, Dr. Sewall said, but the popular stereotype of the "dope fiend" as a wild-eyed, desperate maniac is a misconception.

"Complex, deep-seated emotional problems" drive people to narcotics, just as they drive others to alcohol, he pointed out.

Device Improves Speech In Cerebral Palsied

Speech improvement in children with cerebral palsy is being effected with a device known as the electro-lung, now in use at Northwestern University, Evanston, Ill.

Harold Westlake, Ph.D., head of the speech correction and audiology department, said that while normal persons breathe 14 to 16 times a minute, some cerebral palsy victims breathe 60 to 80 times a minute, which makes continuous speech impossible.

The electro-lung, by stimulating and regulating muscles used in breathing, creates a normal breathing pattern for the child and helps him learn to breathe properly, Dr. Westlake explained.

Radioactive Iodine Locates Tumors

Radioactive iodine injected into the spinal canal indicates the exact site of operation to remove a tumor, report surgeons from Mercy Hospital, Pittsburgh.

Radioactive "waste" is being recovered from British atomic piles and being used in hospitals for treatment of deep-seated cancer. W. S. Eastwood, who suggested use of "waste," or cesium, for cancer therapy, installs cesium in a specially designed therapy apparatus at Royal Marsden Hospital, London.

The test, described to the American Roentgen Ray Society by Drs. C. Richard Perryman, Paul R. Noble and Floyd H. Bragdon, has been tried with good results.

The spinal fluid, according to the surgeon, becomes "hot" following the injection, and gives off visible rays which can be detected by passing a special instrument down the patient's back.

Where a big enough obstruction exists to prevent free flow of fluid, radioactivity dies down or out.

Then x-rays of the patient's back, when placed on top of a chart on which radioactivity has been plotted, enable the surgeon to find the best operative site.

Develop New Method Of Detecting TB

A new method of detecting tuberculosis may cut diagnostic time from four weeks to four days.

Guy P. Youmans, M.D., who headed the study at Northwestern University and the VA Research Hospital, Chicago, said that the test will not replace mass chest x-rays, but will supplement them.

Dr. Youmans said about three percent of x-rays show signs of what may be tuberculosis or other chest diseases, such as cancer or a heart condition.

Explore Medicinal Remedies In Earth's Products

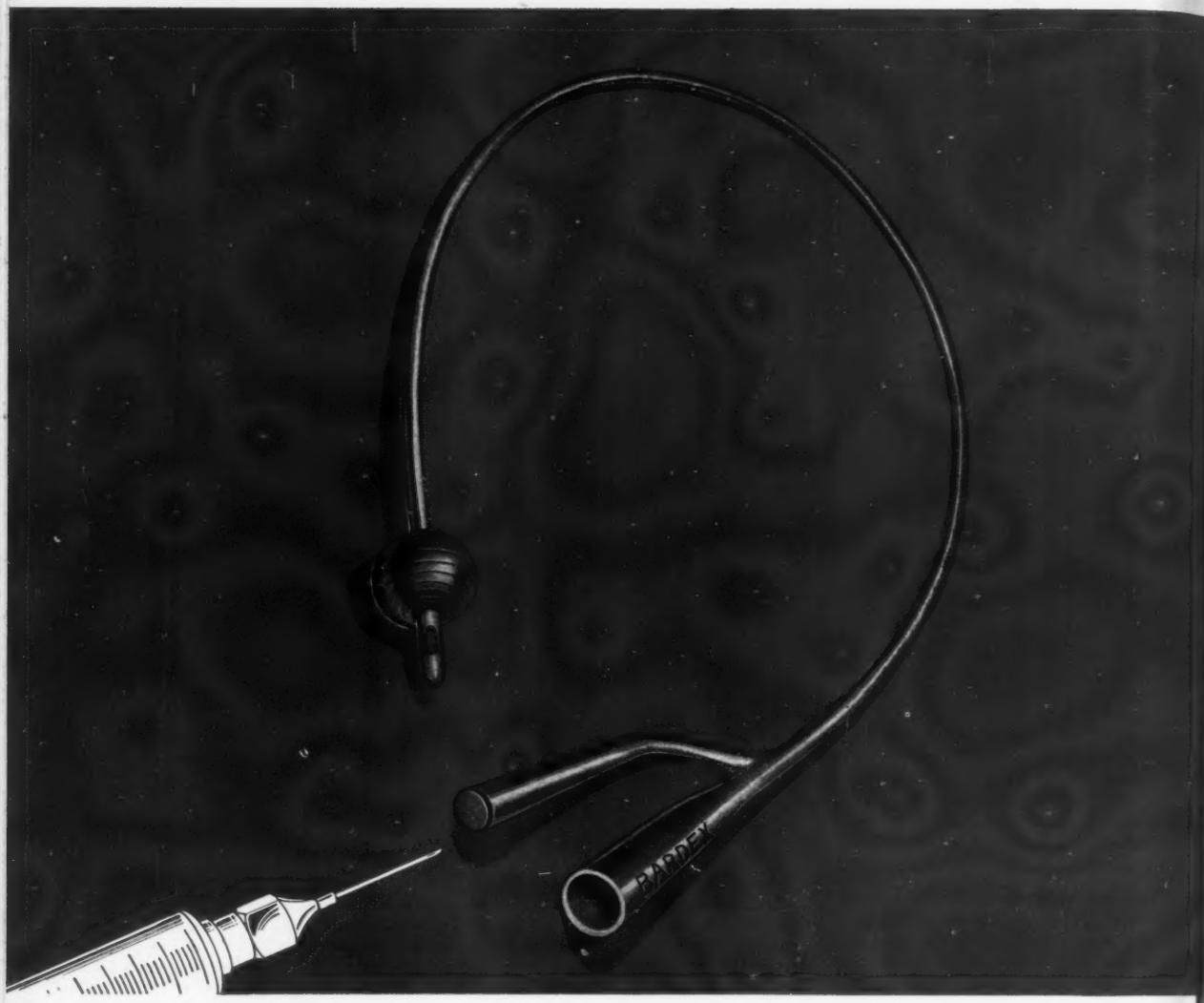
Medicinal remedies are hidden in some of the earth's natural products, a California research scientist believes after a recent expedition to Tanganyika, Africa.

Dr. Saleem Farag, instructor in preventive medicine and public health, College of Medical Evangelists, headed a research team which included three other scientists and a photographer.

The expedition gathered native plants, roots, and herbs used medicinally by the 285,000-member Ha tribe.

Dr. Farag told of one native who was cured of schizophrenia with the

(*Continued on page 117*)



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When the needle is withdrawn, the plug is self-sealing. There is no drip after inflation or deflation. To deflate, merely puncture plug with needle on empty syringe.

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News Briefs at Press Time

PHS ANNOUNCES $575,000 AHA GRANT FOR STUDY OF HEART DRUGS

PHS grant of $575,000—largest award of its kind ever made by National Heart Institute—has been given to the American Hospital Association for clinical study to evaluate effectiveness of drugs in treating heart disease.

Alan E. Treloar, Ph.D., AHA director of research, was named as award recipient. Initial study will be concerned with hypertension.

Advisory board of medical research workers and clinicians will establish guiding principles of program and make broad policy decisions. A central staff —located in Chicago—will include a clinician and biostatistician who will coordinate project activities.

Technical committee to be set up will include one representative from each hospital and clinical research laboratory collaborating in program.

HEALTH BUDGET HIGHLIGHTS

Federal budget submitted for 1957-58 calls for $126.4 million for Hill-Burton aid, compared with $112.2 million this year. Amount is divided as follows: aid to general hospitals, $101.1 million; support of research in hospital administration, $1.2 million; chronic disease hospitals and diagnostic centers, $8,025,000 each; and $8 million divided equally among rehabilitation facilities and nursing homes.

VA is asking $702 million for inpatient care ($40 million more than this year), but budget calls for $3.6 million less for outpatient medical and dental services. Administration is asking $10.3 million for VA research program ($10 million was awarded by Congress last year).

Proposed FCDA budget includes $62 million for stockpiling medical supplies and equipment—two-thirds of which will go into emergency hospital procurement. Sum of $1.7 million will be distributed among states to aid in purchase of medical requirements for defense preparations.

PHS grants for medical research support will remain at $90 million a year, but extra $7 million has been added to budget to provide for higher overhead costs.

SPECIAL FCDA HEALTH SERVICES COURSE PLANNED FOR MARCH

Second in series of courses on operation of health services in civil defense will be given March 4-8 by FCDA Staff College, Battle Creek, Mich.

Courses will cover principles of CD and organization, administration, and operation of such services. Special problems pertaining to emergency operation of health services will be included.

Enrollment is open to physicians (including health officers), dentists, nurses, hospital administrators, sanitary engineers, pharmacists, and associated professional groups.

There is no charge for tuition. Living quarters are available for students at the national FCDA headquarters at a nominal fee. Application forms can be obtained from regional, territorial, state, and local civil defense offices, or the director, FCDA Staff College, Battle Creek, Mich.

BRIEF BRIEFS

Sam T. Gibson, M.D., has been named to new post of senior medical officer, American Red Cross. He has been acting medical director since last June . . . Pilot test study for national survey of sickness and disability was scheduled to start in Charlotte, N.C., metropolitan area, January 28 . . . Children's Bureau has published a 23-page booklet containing information and practical suggestions for parents of mentally retarded children . . . New type mask resuscitator probably will get large-scale field testing by Army, which is encouraged by experimental results . . . Aims C. McGuinness, M.D., has been named to succeed Lowell T. Coggeshall, M.D., as special assistant for health and medical affairs to Secretary of HEW Folsom. Elliot Lee Richardson is assistant secretary for development and coordination of programs.

Gordon M. Marshall

Calendar of Meetings

FEBRUARY

4- 5 AHA Mid-Year Conference, Palmer House, Chicago

8- 9 American College of Radiology, Drake Hotel, Chicago

10-12 Congress on Medical Education and Licensure, Palmer House, Chicago

11-14 VA Conference on Chemotherapy of Tuberculosis, Hotel Coronado, St. Louis

11-14 AHA Central Service Administration Institute, Henry Grady Hotel, Atlanta, Ga.

18-20 Association of Operating Room Nurses Conference, Hotel Statler, Los Angeles

18-20 American College of Osteopathic Obstetricians and Gynecologists, Bellevue-Stratford Hotel, Philadelphia

18-22 AHA Hospital Dietary Administration Institute, Deshler-Hilton Hotel, Columbus, O.

24-28 International Scientific Congress of International College of Surgeons, University of Mexico, Mexico City, Mex.

25-26 American Osteopathic Hospital Association Institute, Portland, Ore.

25-28 AHA Nursing Service Supervision Institute, Shoreland Hotel, Chicago

25-March 1 AHA Hospital Planning Institute, Edgewater Beach Hotel, Chicago

26-28 National Association of Methodist Hospitals and Homes, Palmer House, Chicago

27-March 1 American Protestant Hospital Association, Palmer House, Chicago

MARCH

11-12 New Mexico Hospital Association, Hilton Hotel, Albuquerque, N. M.

11-14 AHA Evening & Night Nursing Service Supervisors Institute, Hotel Roanoke, Roanoke, Va.

11-15 AHA Medical Record Library Personnel Institute, Shoreland Hotel, Chicago

13-15 Michigan Clinical Institute, Sheraton-Cadillac Hotel, Detroit

17 Wisconsin Hospital Association, Hotel Schroeder, Milwaukee, Wis.

18-22 AHA Hospital Organization Planning Workshop, New Yorker Hotel, New York City

19-22 Philadelphia County Medical Soc. PG Institute, Bellevue-Stratford Hotel, Philadelphia

25-27 New England Hospital Assembly, Hotel Statler, Boston

25-28 American Academy of General Practice Scientific Assembly, Kiel Auditorium, St. Louis

26-28 Kentucky Hospital Association, Hotel Phoenix, Lexington, Ky.

31-April 4 Ohio Hospital Association, Hotel Cleveland, Cleveland, O.

APRIL

1- 3 American Academy of Pediatrics (Spring Sess.) Sheraton Park Hotel, Washington, D. C.

1- 4 Congress of International Anesthesia Research Society, Phoenix, Ariz.

1- 4 Southeastern Surgical Congress, Vinoy Park Hotel, St. Petersburg, Fla.

(Continued on page 15)

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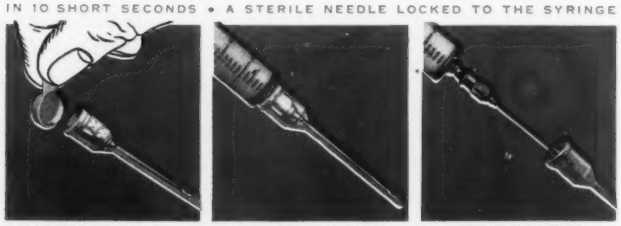

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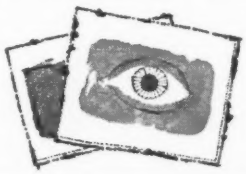
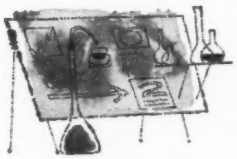


An extensive library of colored anatomical slides (art work by Frank H. Netter, M.D.) is available for loan or purchase. A complete list of the slides may be obtained by writing the Publication Dept., CIBA, Summit, N. J.

SCIENTIFIC DISPLAYS



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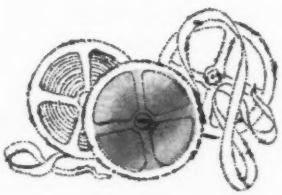

A library of films in color with sound may be borrowed to be used as teaching aids for nurses, residents and internes, or as part of refresher courses and staff meetings. If you wish, projection equipment and a qualified operator will be provided without charge. A list of film titles is available from the Hospital Service Division, CIBA, Summit, N. J.

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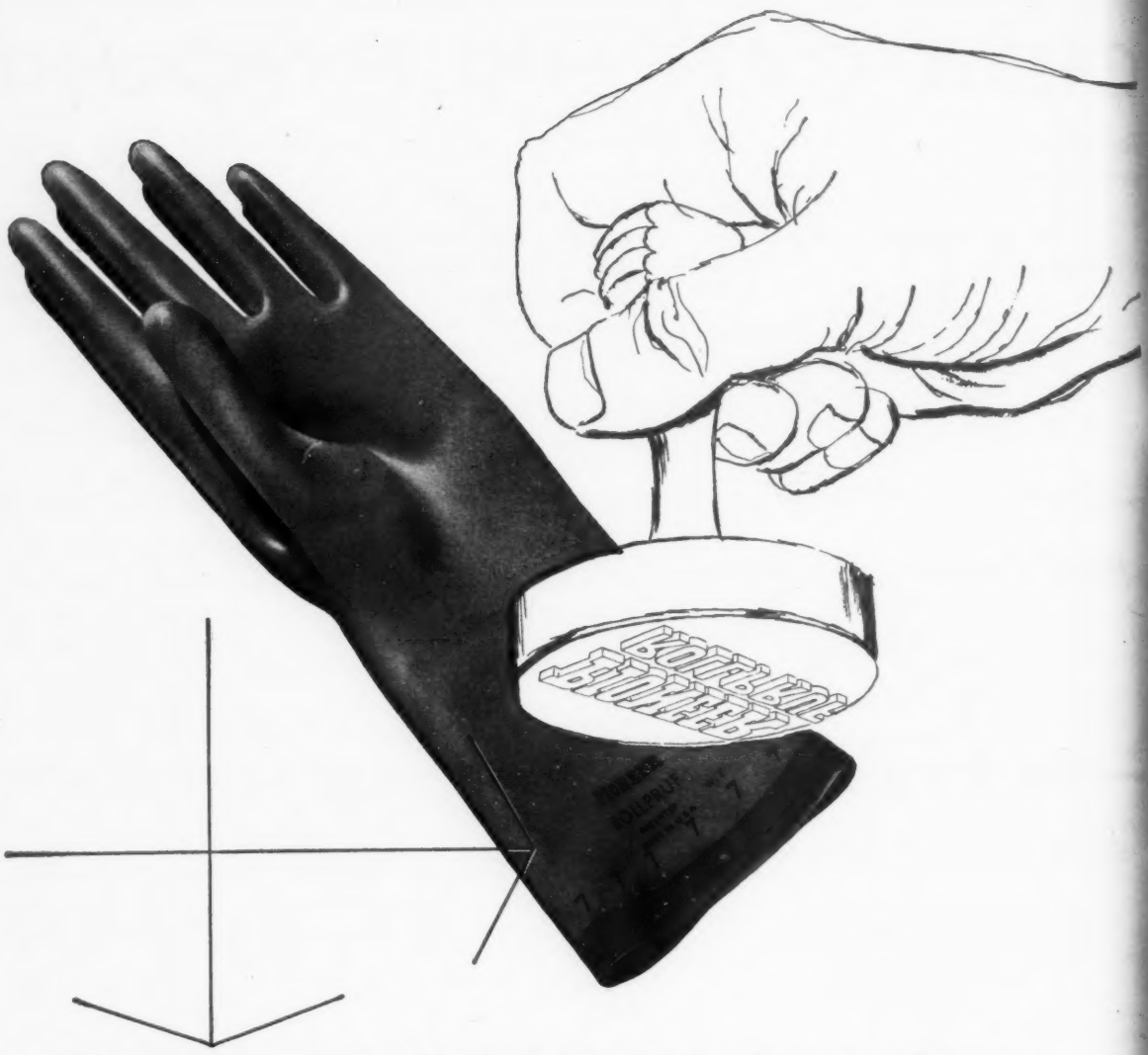

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328 Tiffin Road, Willard, Ohio
Pioneers in Hand Protection for over 35 Years

Processed to prevent the ozone cracking that shortens the life of many rubber products.

Nurse preparing gut in glass tubes

Nurse preparing D & G SURGILAR Sterile Pack of surgical gut

Save suture handling with D & G SURGILAR* Sterile Pack

GET BROKEN GLASS OUT OF THE O. R.

Light-tracings in the time-and-motion pictures show a nurse's hands at work. Compare the simple motions she uses to prepare SURGILAR Sterile Pack of surgical gut with the many motions for tubed gut. She can handle SURGILAR ½ faster than tubes.

SURGILAR saves hospital nurse-power and money. It eliminates glass tubes, provides stronger, more flexible D & G surgical gut coiled in quickly opened, double, sterile transparent envelopes.

Hospital-tested SURGILAR helps to improve patient care. It keeps broken glass out of your O.R. No glass fragments to damage sutures, cut fingers, perforate gloves, or invade the operative field.

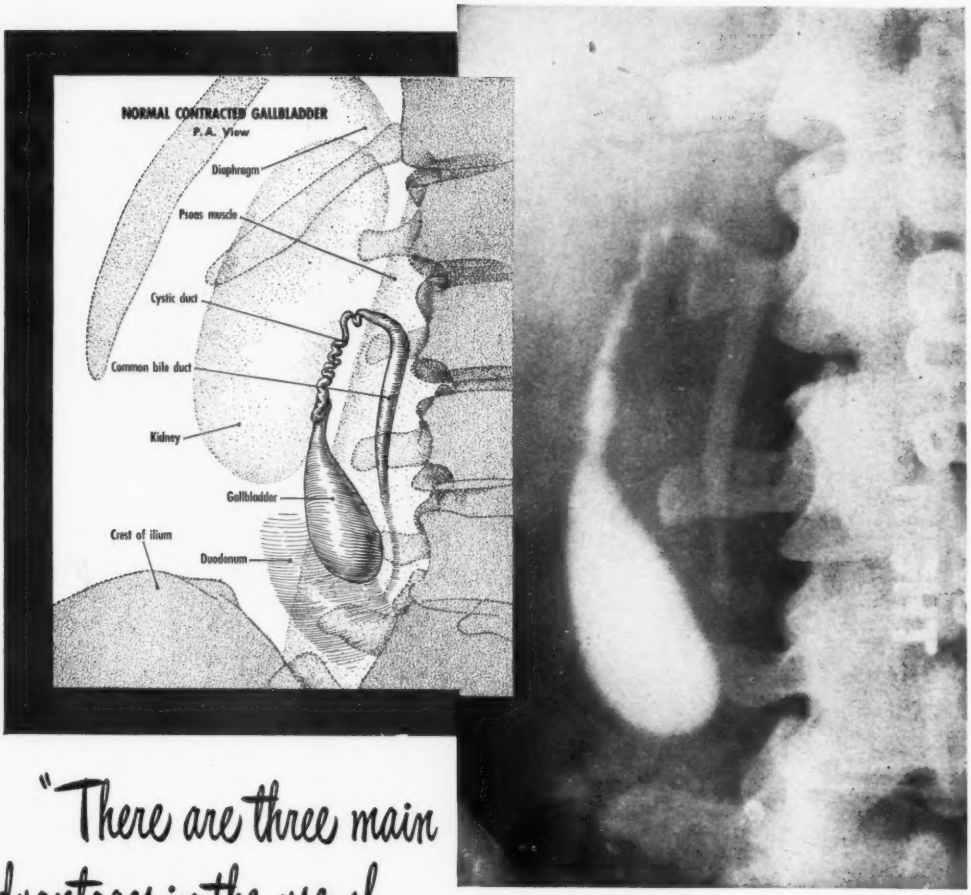
With SURGILAR, double envelopes are quickly cut, gut easily withdrawn, ready for use. No need to wash plastic envelopes after exposure, since they are protected by the outer envelopes. Jars store in ½ space required for tubed gut.

photo technic: *light-tracings of hands to which bulbs are attached.*

D & G **hospital-tested** packaging makes the difference

AMERICAN CYANAMID COMPANY
SURGICAL PRODUCTS DIVISION
DANBURY, CONNECTICUT

*Trademark



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3 **In a fairly large percentage of cases, the cystic and the common ducts are quite definitely outlined, and occasionally even the hepatic duct."**

Buckstein, Jacob: The Digestive Tract in Roentgenology. Philadelphia, J. B. Lippincott Co., 2nd ed., 1953, vol. 2, p. 1003.

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The average adult dose of Telepaque is 3 Gm. (6 tablets). In persons of thin or medium build, weighing less than 150 lb., 2 Gm. (4 tablets) may be sufficient.

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CALENDAR

(Continued from page 10)

4- 5 American Osteopathic Hospital Association Institute, Orlando, Fla.

8-12 American College of Physicians, Mechanics Hall, Boston, Mass.

9-12 U. S.-Mexico Border Public Health Association, Plaza Hotel, San Antonio

10 Washington State Hospital Association, Leopold Hotel, Bellingham, Wash.

10-12 AHA X-ray Technicians Institute, Willard Hotel, Washington, D. C.

11-12 Carolinas-Virginias Hospital Conference, Hotel Roanoke, Roanoke, Va.

15-16 South Dakota Hospital Association, Marvin Hughitt Hotel, Huron

15-17 National Osteo. Child Health Conf. & Clinic, Municipal Auditorium, Kansas City, Mo.

15-19 Fed. of Amer. Soc. for Experiment. Biology, Conrad Hilton Hotel, Chicago

22-23 AHA Improvement of Patient Care Institute, Hotel President, Kansas City, Mo.

22-25 Industrial Medical Association, Kiel Auditorium, St. Louis

22-25 AHA Obstetrical Nursing Service Administration Institute, Somerset Hotel, Boston

23-24 North Dakota Hospital Association, Dacotah Hotel, Grand Forks, N. D.

24-26 Mid-West Hospital Association, Municipal Auditorium, Kansas City, Mo.

24-26 Southeastern Hospital Conference, Atlanta-Biltmore Hotel, Atlanta, Ga.

25-26 Iowa Hospital Association, Hotel Savery, Des Moines, Ia.

25-29 First Pan American Cancer Cytology Congress, Eden Roc Hotel, Miami Beach, Fla.

28-May 1 California Medical Association, Ambassador Hotel, Los Angeles

29-May 1 Tri-State Hospital Assembly, Palmer House, Chicago

MAY

3- 4 American Osteopathic Hospital Association Institute, Kansas City, Mo.

3- 5 The Student American Medical Association, Sheraton Hotel, Philadelphia

5- 9 International Congress of Otolaryngology, Statler Hotel, Washington, D. C.

6- 8 Convention of Western Hospitals, Statler Hotel, Los Angeles

6- 8 Aero Medical Association, Shirley Savoy Hotel, Denver, Colo.

6- 9 Association of Western Hospitals, Statler Hotel, Los Angeles

6- 9 National League for Nursing, Conrad Hilton Hotel, Chicago

6- 9 National Tuberculosis Association, Auditorium, Kansas City, Mo.

6- 9 American Urological Association, Wm. Penn Hotel, Pittsburgh

9 Massachusetts Hospital Association Annual Meeting, Hotel Statler, Boston

13-17 American Psychiatric Association, Morrison Hotel, Chicago

14-16 Texas Hospital Association, Shamrock-Hilton Hotel, Houston

15-18 American College of Cardiology, Inc., Hotel Willard, Washington, D. C.

17-18 American Osteopathic Hospital Association Institute, New York City

20-24 American Osteopathic Hospital Association Medical Record Librarian School, Chicago

22-24 Middle Atlantic Hospital Assembly, Convention Hall, Atlantic City, N. J.

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now...a better package
HAEMO-SOL
now has the new, low, compact look
in its all new, all metal container
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Wider opening—easier to dispense
Every last ounce is at your finger tips
No paper labels to get wet or soiled
Triple tight cap for positive reclosing
Squat shape will not tip over and spill
Easier to store—easier to use
And, of course, inside is HAEMO-SOL the original cleaner and blood solvent, standard in so many hospitals and laboratories. Dissolves blood, disengages tissue, mucous, fat and proteinaceous soil on immersion alone.
Completely soluble—Crystal Clear Solution —Rinses Completely. Equally safe and effective for Metal, Glass, Rubber and Plastics. HAEMO-SOL cleans instruments, rubber gloves, syringes, lab glassware.
Yes! HAEMO-SOL is used for spinal syringes, blood bank, Bio-Assay and Tissue Culture work.
For Tracheotomy tubes, too, just soak and rinse.
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It's so easy with Haemo-Sol!
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FREE on request—detailed instructions—THE HAEMO-SOL WAY "or cleaning catheters, syringes, instruments, needles, syringes for spinal anaesthesia, glassware, pipettes, wherever there is cleaning to be done by hand or mechanically.

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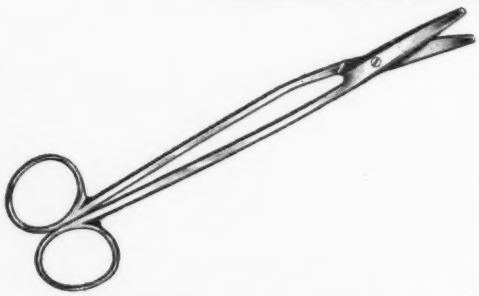
SCISSORS ARE THE STRONGEST!

PROVE IT TO YOURSELF! JUST MAKE THIS EASY TEST WITH BOTH ORDINARY SCISSORS *AND* WECK SCISSORS. PLACE A WOODEN PENCIL BETWEEN THE BLADES AND APPLY ALL THE PRESSURE YOU CAN—

COMPARE THE RESULTS!



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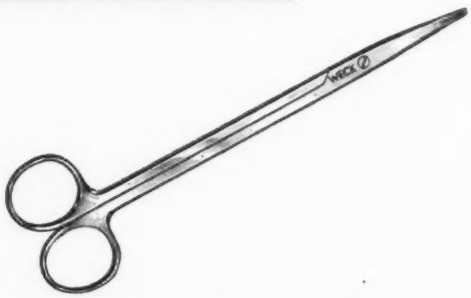
When put to the "pencil test", the shanks and blades of *both* scissors *bend* under pressure. Ordinary scissors *remain* bent. Only Weck scissors regain the perfect alignment of their cutting edges. Weck scissors pass this rigid test every time because they are scientifically designed and manufactured for exceptional strength and unequalled durability. Weck scissors contain the



BUT WECK SCISSORS REMAIN UNDAMAGED!

perfect combination of alloys, receive scientific heat treatment and are subjected to electrically controlled hardening and tempering. This processing gives Weck Stainless Steel its great strength, and is one of the "hidden features" that make Weck scissors the finest you can own. **Remember—in surgical instruments "American-made" always means "better-made".**

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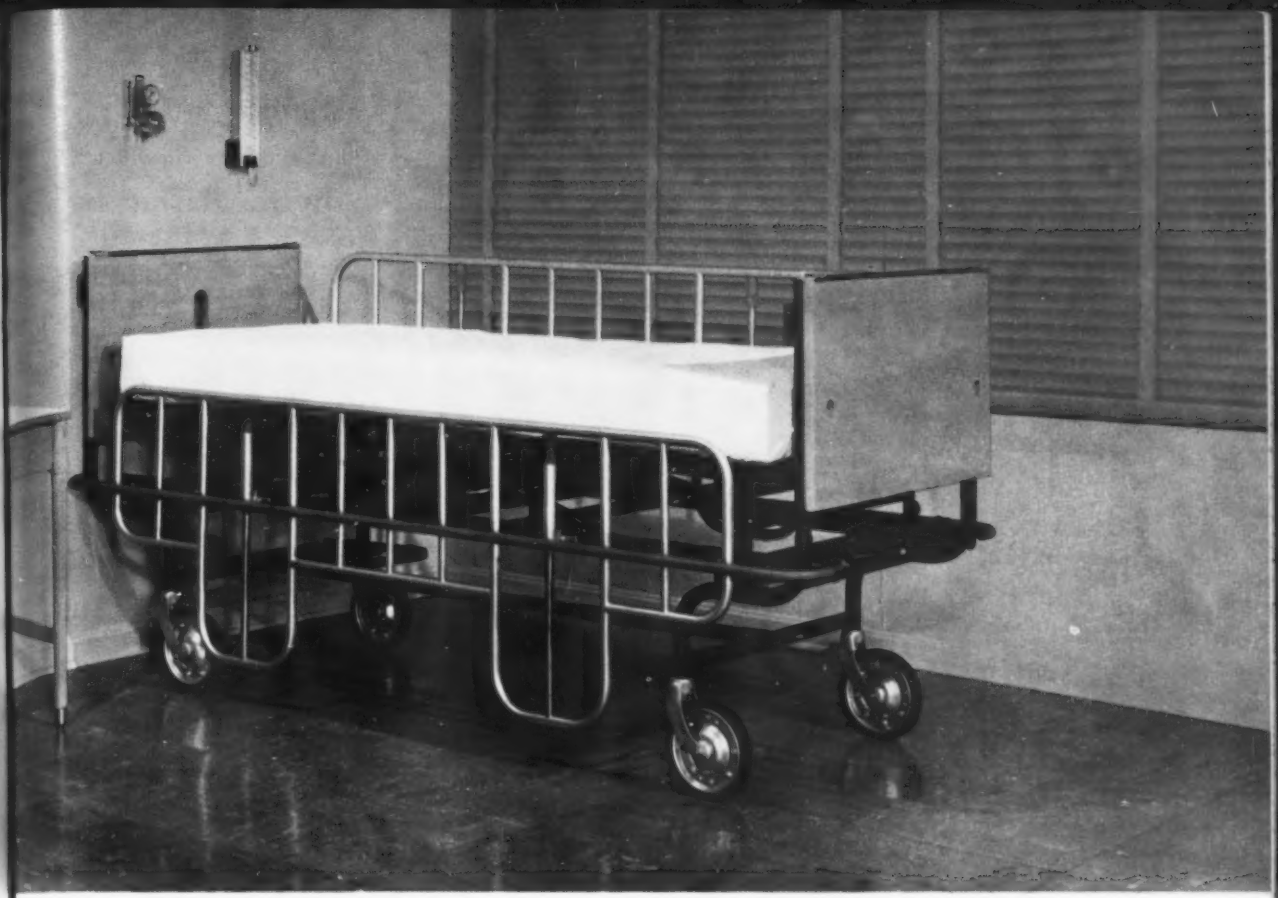
Manufacturers of Surgical Instruments • Hospital Supplies • Instrument Repairing



Hill-Rom No. 42—No. 43 Recovery Beds

No. 42 RECOVERY BED. Head and footboard panels are wood with stainless steel protective strips. Both ends removable.

No. 43 RECOVERY BED. Head and footboard panels are heavy gauge, but light weight-aluminum. Both ends removable.

● While designed primarily for the treatment of post-operative patients, Hill-Rom Recovery Beds are equally well adapted for many other uses, including eye cases, special therapy emergency cases, cardiac cases, also as labor and emergency delivery beds. For emergency delivery cases the foot end of either of the Hill-Rom Recovery Beds can be removed and standard knee crutches inserted in the foot end sockets.

Both beds are equipped with No. 25-1 Trendelenburg springs, telescoping sideguards of aluminum, two wheels with brakes, and swivelocks. Fracture equipment can be mounted on the beds, and there are six positions for the Irrigator Rod. For use in examinations, we recommend that a Hill-Rom Safety Step be attached to the spring.

For further details of these multi-purpose beds write for Procedure Manual No. 2, written by Alice Price, R.N., M.A., Nurse Consultant for Hill-Rom Co. and author of "The Art, Science and Spirit of Nursing."

HILL-ROM COMPANY, INC. · BATESVILLE, INDIANA

Hill-Rom

Perfected Screening

for

- **Ease of Installation**
- **Smooth, Quiet Operation**
- **Minimum Maintenance Worries**

The machined nylon rollers used in Hill-Rom Perfected Screening glide easily and noiselessly on the I-beam track. The exclusive Hill-Rom two-stage corner doubles the effective radius and minimizes binding action around corner bends.

Hill-Rom offers two distinct types of Perfected Screening—Near-Ceiling, for suspended installations, and Recessed-in-Ceiling, designed primarily for built-in installations in new construction. Both of these types employ the same channel, track, fixtures and curtains, and give the same quiet, easy operation. Both types are furnished in standard units (another exclusive Hill-Rom feature) to permit proper screening of rooms of all sizes and shapes.

Close-up of the exclusive Hill-Rom Two-Stage Corner

Write for illustrated literature on Hill-Rom Perfected Screening

Hill-Rom Electric Hilow Bed

Now . . . Listed by

LISTED UNDER REEXAMINATION SERVICE UNDERWRITERS' LABORATORIES, INC. UL OF

for use with OXYGEN

Modernize your hospital—reduce bed fall accidents—by installing HILL-ROM Hilow Beds

Crank-operated Hilow Bed

The high-low bed is widely accepted today as the mark of a modern hospital, and as one of the greatest safety factors in the prevention of bed fall accidents. A high-low bed, in the low position, will prevent many such accidents. Hill-Rom manufactures two high-low beds. One is manually operated, the other motor driven. The manually operated bed is easily adjusted with a crank located at the foot end of the bed. The friction-free, ball-bearing mechanism makes it easy for the nurse to raise the bed with only a few turns of the crank. The Hill-Rom Electric Hilow Bed is the first bed of its type to be approved by Underwriters' Laboratories, Inc., for use with oxygen. It is the last word in safety, dependability and long life expectancy.

Complete information on either or both of these high-low beds will be sent on request.

Safety Sides—A New Safety Measure

by Alice L. Price, R. N., M. A.

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This Procedure Manual explains in detail how to effectively use Safety Sides to prevent bed falls and to avoid serious injury to patients. Copies for Student Nurses and for the Graduate Nurse Staff will be sent on request.

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Connective Tissue, Vertigo, Radioactive Heparin Discussed At AAAS Meeting

• The annual Theobald Smith award in the medical sciences was presented to Oscar Touster, Ph.D., associate professor of biochemistry, Vanderbilt University School of Medicine, Nashville, Tenn. at the 123rd annual meeting of the American Association for the Advancement of Sciences in New York City recently.

The award of $1,000 and a bronze medal, presented by Eli Lilly & Co., is for his research on the root cause of pentosuria, during which he discovered an enzyme that enables the body to convert l-xylulose in the liver of normal individuals.

More than 1,500 scientific papers were presented at the meeting, in which 87 scientific societies participated. Abstracts of some of the papers follow:

Axillary Sweating May Be Reduced With Aluminum Salt Mixture

Antibiotics, Chemicals, Soap Also Used

Aluminum salt preparations, antibiotics, local use of antibacterial chemicals, and thorough washing with soap and water can be used to reduce the amount of axillary sweating.

Axillary odor is due to decomposition of sweat produced by apocrine glands. Decomposition is produced by the action of microbial enzymes on the skin surface.—**Marion B. Sulzberger, M.D.,** Professor of Dermatology and Syphilology, New York University Post-Graduate Medical School, New York City.

Heparin Made Radioactive At New York College

Now Possible to Trace It In Circulating Blood

Heparin has been made radioactive for the first time, by injecting an animal with radioactive sulfur.

This advance makes it possible to investigate the cause and control of abnormal blood clotting in coronary thrombosis, and radiation sickness from A-bomb explosions.

Since it has been made radioactive, tests have shown it to exist in normally circulating blood. In some diseases the heparin is automatically increased by the body to such quantities that it can be measured easily.

When the animal starts to manufacture its own heparin, it uses the radioactive sulfur in the heparin molecule, and the heparin becomes radioactive.—**Harold B. Eiber, M.D.,** Assistant Clinical Professor of Medicine, New York Medical College, and **Isidore Danishefsky, M.D.,** Assistant Professor of Biochemistry.

Man's 'Crash Defenses' Can Withstand 7,000 Lbs. Per Square Inch

Consist of Connective Tissues, Bony Framework

Fibrous connective tissues of the human body, when positioned properly, can resist a stress of 7,000 pounds per square inch without injury. Some mesodermic tissue, pound for pound, compares favorably with structural engineering materials.

These soft tissues, together with the bony framework, constitute man's built-in crash defenses. Split-second, semiautomatic reaction for man's protection probably exists.

Knowledge of multiple functions of human tissues, with the elements for the study of crash resistance has resulted in more precise surgical management.—**Charles Murray Gratz, M.D.,** Department of Orthopedic Surgery, New York University.

New Legislation Affecting Drugs

Gives Pharmacy More Responsibility

Through legislation that affects handling, distribution and dispensing of drugs and medicinals, the hospital pharmacy has become significantly more responsible.

Law-imposed responsibilities deal with the hospital pharmacist's relations with the patient, with members of the medical staff, with the state board of pharmacy, and with his retail pharmacy associates.

During the last decade the hospital pharmacy has made progress on an organizational level. An intensive evaluation of the progress as it concerns the individual might be needed at present.—**Louis E. Kazin,** Associate Editor, *Drug Topics.*

Hunger, Sex, Tranquilizers Affect Reward Systems in Brain

Done by Electric Stimulation To Deep Nuclei

When electric stimulation with permanently implanted electrodes is applied directly to nuclei deep within an animal's brain, overt behavior can be studied in cell groups.

The rate of self-stimulation declines as the locus of stimulation is shifted from caudal to rostral.

A hunger drive exercises a strong positive control over response rate when electrodes are implanted in medial parts of the posterior hypothalamus, and has a major effect when stimulation is applied in parts of the septal area. Its influence disappears when electrodes are in the anterior ventromedial hypothalamus.

(Continued on next page)

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(Continued on next page)

AAAS Continued

Male sex hormone has a positive influence on self-stimulation rates when electrodes are in regions just lateral to those affected by hunger.

Chlorpromazine exerts a strong negative effect on self-stimulation when electrodes are in parts of the posterior hypothalamus and parts of the forebrain. The effect is less pronounced when electrodes are in the anterior hypothalamus.

Systems stimulated are reward systems of the brain, and specific drive-reward systems are localized within them. Specific drive systems seem to be interwoven compactly in the hypothalamus, but more spread out in the rhinencephalic cortex.—**James Olds, Ph.D.,** Associate Research Psychologist, Department of Anatomy, University of California, Los Angeles.

'Bad Bite' Called Principal Cause of Vertigo

An uneven dental bite is a major cause of vertigo.

Ninety-six percent of the patients treated in a 10-year study obtained relief from vertigo when the mandibular joint-dental bite abnormality was corrected.

The uneven dental bite puts pressure on, and injures, a portion of the ear. This disturbs the semicircular canals, affects equilibrium, and brings on an attack of vertigo. Between four and 10 million persons in the United States have dental bite defects that may cause vertigo.—**Herbert T. Kelly, M.D.,** Graduate School of Medicine, University of Pennsylvania, Philadelphia, and **David J. Goodfriend, D.D.S.,** Philadelphia.

Propose Making Drugs Available To Addicts Under Supervision

A medical approach, instead of a punitive one, should be tried to the narcotic problem in this country. Great Britain has used a medical approach successfully.

Under present regulations, rehabilitation can only be carried out after the patient has undergone withdrawal.

The New York Academy of Medicine suggests a six-point program for dealing with the problem. It includes:

(1) Changing the present attitude toward the addict, and not considering him a criminal simply because he uses narcotic drugs.

(2) Taking the profit out of illicit drug traffic and permitting the addict under proper supervision to obtain drugs at low cost under federal control.

(3) Providing medical supervision of existing addicts with steps toward their rehabilitation.

(4) Educating the adolesent.

(5) Drawing a distinction by law between the addict and non-addict for provision of drugs, and for recording the number of addicts in the country.

(6) Relaxing the efforts toward complete and permanent elimination of the supply of illegal narcotic drugs.—**Hubert S. Howe, M.D.,** New York.

Consultants Meet During AAAS

● *A symposium on "The Hospital and the Sequence of Care" was held by the American Association of Hospital Consultants in connection with the 123rd AAAS meeting. Abstracts of several lectures follow.*

Facilities, Services, Should Be Designed For Individual Patients' Needs

Intensive Care, Self-Help Units Examples Of Suiting Facilities to Patients

Hospital facilities and services must be tailored to meet patients' individual needs, if care is to be provided at the least possible cost consistent with these needs.

The current trend toward intensive treatment units is a forward step in suiting facilities to need. It is probable that most new general hospitals built from now on will include this feature.

A trend toward a system of specialized facilities—one for the acutely ill, one for the convalescent, one for the chronically ill, and one for the aged and infirm—has already started.

Since there are special advantages in segregating critically ill patients, there may also be advantages in segregation at the opposite end of the sickness scale. Self-help nursing units could be used for convalescents, those in the hospital for observation and diagnosis, and others with minor disabilities. The cost should be much less per bed than that of the regular general hospital.

More information is urgently needed on what the functions of the self-help and other types of units should be.—**Vane M. Hoge, M.D.,** Assistant Surgeon General, U. S. Public Health Service, Washington, D. C.

NYC Home Care Program Well Established After 8 Years

Average Cost per Patient Day in 16 Hospitals: $3.50

New York City's home care service, in eight years of operation, has proved its practicability and has become an indispensable part of the city's medical care program.

The 16 hospitals with home-care services have an average daily census of 2,200 patients on all programs. Average cost per patient day on home care is now about $3.50, compared to our $23 per diem costs in general hospitals.

Home care is no longer utilized merely to relieve a bed, although this secondary benefit is a good one, but because the patient can be cared for adequately and more economically on that service.

A patient is not discharged from the hospital to go on home care, but rather is transferred to that service. The hospital physician decides whether the patient requires home care. In addition to medical, nursing, and social services, the home-care patient is given physiotherapy and occupational therapy.—**Basil C. MacLean, M.D.,** Former Commissioner of Hospitals of New York City.

Definition of Nursing Homes' Functions Urgently Needed

Much Variation in Objectives, Procedures

One of the greatest planning problems facing the hospital field is a definition of the functions of nursing homes

(Continued on page 26)

Varicose Veins, Seborrheic Disease Discussed at Dermatology Conclave

More than 1,200 dermatologists attended the 15th annual convention of the American Academy of Dermatology and Syphilology, held recently in Chicago. Abstracts of some of the papers follow:

House Cat Transmits Disease Through Scratch

One-Third of Cases Are in Children Under 10

Hundreds of cases have been reported of a disease starting with the scratch of a cat, followed by a primary skin lesion, enlargement of regional lymph node, general symptoms of infection and fever. The disease has worldwide distribution.

One-third of the cases are in children under 10 years of age. The majority are under 20 years. There is no preference for sex. However, the majority of cases in adults past 40 are of women, who are more apt to have contact with cats.

Cats themselves are not afflicted with the disease. —**Ruth R. Rauschkolb, M.D.,** Assistant Professor of Dermatology and Syphilology, Western Reserve University, Cleveland.

Varicose Vein Sufferers Usually Have Had Previous Clot

Accounts for Poor Circulation

At least 50 percent of people suffering from varicose veins have had a previous blood clot to account for their poor circulation.

A highly disabling clot condition in the deep veins develops after operations, childbirth, or prolonged stay in bed. Its presence may not be noted at the time.

Swelling is the first symptom in the legs. Five years later, half of the patients have inflamed hard patches under the skin, and one out of four has developed an ulcer. After 10 years, 75 percent show inflamed patches, and in 50 percent the skin was broken down, forming an ulcer. More than 10 years after the original blood clot, 80 percent of the legs have ulcerated.

Superficial veins, ulcers, and scarred tissue can be removed by surgery.—**Geza de Takats, M.D.,** Clinical Professor of Surgery, University of Illinois College of Medicine, Chicago.

Seborrheic Disease Aided by Excess Water in Tissues

The plump person's susceptibility to seborrheic diseases is due to the above-average amount of water in his tissues, and to his liability to catarrh and infections.

Skin sensitivity is determined by factors relating to endocrine gland activity, emotional stability, and nutrition.

The greasiness of the plump person's skin increases his chances of getting scurf of the scalp and acne.—**Paul A. O'Leary, M.D.,** Mayo Foundation, Rochester, Minn., and **John T. Ingram, M.D.,** Senior Clinical Lecturer, University of Leeds Teaching Hospital, Leeds, England.

Sun Causes Different Reaction in People

Everybody doesn't get sunburned when exposed to the sun. Some react with different dermatoses that look like other skin diseases. Office workers even react to fluorescent lighting.

Different light wave lengths tend to produce one of the various eruptions. Sunburn occurs when wave lengths are below 3200 Angstrum units. Photodynamic actions of light on cells occur above this point to 7000 or 8000 units. Some effects are seen in the infra red to 10000 units.

(Continued on next page)

Officers of the American Academy of Dermatology and Syphilology pictured front row (l. to r.): George M. Lewis, M.D., past president; Nelson Paul Anderson, M.D., president, and Arthur G. Schoch, M.D., vice president. Dr. Schoch is clinical professor and chairman, department of dermatology, Southwestern Medical College, University of Texas. Back row (l. to r.): Samuel J. Zakon, M.D., historian, Northwestern University Medical School, Chicago; James Webster, M.D., secretary-treasurer, and professor of dermatology, Northwestern University, and Robert R. Kierland, M.D., assistant secretary-treasurer, and associate professor of dermatology and syphilology, University of Minnesota Graduate School (Mayo Foundation).

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Over 400 illustrations familiarize the nurse with instrument set-ups, supplies and procedures. The Appendix pictures 210 separate surgical instruments and 13 different kinds of surgical sheets.

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HT—2-57

George M. Lewis, M.D., professor of clinical medicine, Cornell University Medical College, New York City, hands the gavel to Nelson Paul Anderson, M.D., clinical professor of dermatology and syphilology, University of Southern California School of Medicine, Los Angeles, and newly elected president, American Academy of Dermatology and Syphilology.

DERMATOLOGY continued

Polymorphic light-sensitive dermatoses have their main spectrum in the high ultraviolet and blue areas of 2900 to 6000 units.

A third form of dermatoses on the hand may be caused by light of almost any wave length. — **Arthur R. Woodburne, M.D.,** Associate Clinical Professor of Dermatology, University of Colorado Medical School, Denver.

Substance Injected Beneath Scar As Treatment for Deep Pit Marks

Results Good 18 Months Later

"Fibrin-foam," a substance derived from the blood, is injected beneath deeply pitted scars, to raise the level of the bottom of the scar to that of the rest of the skin.

Consistently good results have been observed in patients observed for 18 months. The area remains black and blue for a few days, but soon resumes its color. There is no pain.

Examination under microscope at the end of several months shows the substance to be absorbed and replaced by normal body tissue.—**Arthur S. Spangler, M.D.,** Assistant in Dermatology, Harvard University Medical School, Boston.

Humidity Regulation Important In Winter Also

Humidity regulation is as important in winter as in summer.

In winter when the humidity becomes low, the outer protective layer of the skin loses its water content, becomes brittle, cracks, and allows substances to penetrate. In summer, when the humidity is too high, this layer takes up excess water and becomes a satisfactory medium for the multiplication of bacteria and fungi.

A normal intact horny layer is required if the skin is to have maximum protective ability.—**Irving H. Blank, M.D.,** Associate in Dermatology, Harvard Medical School, Boston.

Radiologists Told of Appendix Clues, Use of Cyclotron in Cancer Cases

Two thousand eight hundred radiologists attended the 42nd annual meeting of the Radiological Society of North America, held in Chicago December 3-7. The sessions included scientific papers, symposia, and panel discussions, and refresher courses on a post-graduate level. Abstracts of selected papers follow:

Clue in Acute Appendix Attacks Found by X-ray Examination

Aids in Early Diagnosis

A calcified appendiceal "inside stone" may be of considerable help in early diagnosis of appendicitis.

During the past five years, in the John Gaston Hospital, 34 patients have been seen in whom calcified appendiceal enteroliths were demonstrated by x-ray examination.

Incidence of perforation is greatly increased by the presence of calcified enteroliths. The lapse of time between onset of symptoms and perforation is reduced in the presence of these calcified appendiceal stones.

Most of the patients had symptoms and phyiscal findings such that acute appendicitis was the obvious preoperative diagnosis. However, in a few of the patients, the symptoms and signs were more difficult to interpret, and the radiological demonstration of a calcified appendiceal enterolith contributed a great deal of the differential diagnosis.

A corrective appendectomy is indicated in most cases in which a calcified appendiceal condition is demonstrated by the radiologist in his radiological examination of the patient.—**David S. Carroll, M.D.,** Memphis, Tenn.

Destroy Pituitary Gland In Breast Cancer Cases

Cyclotron Penetrates Without Damaging Other Tissues

Twenty-six breast cancer patients, all very far advanced with the disease and in whom conventional treatment had failed to arrest the spread, have been treated from September 1954 to September 1955 with the 340,000,000-volt University of California Cyclotron.

Only two patients are still alive, but hope is held out for the Cyclotron as a weapon in the fight against cancer. One case indicates that the disease has stopped spreading; the other had indication the disease was stopped for nearly a year, but that patient is now failing.

I believe that we have achieved the destruction of a deep-seated organ without damage to the intervening tissues. Some of our patients have been benefited and we have demonstrated that we can depress the pituitary function and destroy the pituitary without subjecting the patient to a craniotomy, with its mortality and morbidity.

Besides five patients who showed some healing of bone lesions, there were two patients in whom bony metastases remained stationary for several months. In one patient, recurrent pleural effusion, with demonstrable tumor cells, resolved after irradiation and has not recurred in 16 months. In three others, pulmonary metastases remained stationary for as long as one year after irradiation. — **Rollin K. Coombs, M.D.,** University of California, Berkeley.

Avoid Extremes of Inadequate Examination, Excessive Radiation

Simplest Possible Technics Needed

All too often the inaccessibility of the retroperitoneal space masks early symptoms, makes physical diagnosis uncertain, and reduces the value of laboratory investigations. This gave rise to the development of complex, difficult, though specific, x-ray diagnostic procedures, which breached the resistance of the retroperitoneal space to accurate evaluation.

The radiologist is walking an ever-narrowing tightrope. In the investigation of a patient with a poorly defined symptom complex, it is easy to stumble between the danger of the well-publicized limits of total body radiation and the danger of missing a poorly defined lesion because of inadequate examinations.

For this reason, our procedures must be continually reappraised to make certain that we use the simplest possible technics offering the greatest possible diagnostic awards.—**Robert M. Lowman, M.D.,** New Haven, Conn.

X-ray Studies of Spine Require Much Experience

Important Deformities Easily Overlooked

Myelography, to be of real value, requires much experience on the part of the examiner. There are many deformities which are not very significant, and failure to recognize them will result in many errors which will discredit the procedure. There are also a number of minor myelographic deformities which can readily be overlooked, but which may be very diagnostic.

The importance of myelography in the diagnosis of clinically significant discs depends on two factors: the experience and skill of the physician in charge of the patients and the experience and skill of the myelographer.— **Harold O. Peterson, M.D.,** St. Paul, Minn.

Coupon Book Cuts Costs in Ohio Hospital

● An integrated data-processing system originally designed for banks is saving Riverside Hospital, Toledo, O., almost $30,000 yearly, and has practically eliminated late charges.

Heart of the system is a coupon book, originally introduced for banks and loan companies to account for loan installment payments, and used by Riverside for all patient requisitions and charges.

Through use of the book, according to Bernhardt A. Zeiher, assistant director, the 200-bed hospital has trimmed 31½ hours from its daily paperwork routine, and also estimates it is able to collect $7,500 each year that would otherwise be lost because of delayed billing.

Other phases of the system are saving 3½ hours of nursing time daily, for a total of $2,555 yearly.

Prior to 1953, the hospital used a 10-part 4 x 6″ snap-out carbon typewriter set for patient admissions and for start of routine x-ray and laboratory services.

This system, according to Mrs. Zeiher, reduced the number of writings of the basic data on a case from 10 to one. But it left dozens of rewritings to follow, which kept the nurses and technicians from doing more important work.

In 1953, the hospital adopted an integrated data-processing system* based on the Direct Process duplicating system, which places all original information on a master typed by the hospital admissions clerk. This one master is used to duplicate all subsequent forms needed. No further rewriting is necessary.

As each patient is admitted, he gives essential information about himself to the clerk, who enters it on the pre-printed master containing 37 spaces, which provide for such information as name, address, attending physician, date and hour admitted, birth date and place, religion, occupation, relative's name, insurance, room number, etc.

On the duplicator, the clerk then turns out all forms required with all applicable data, in from three to five minutes. This includes the time required to duplicate, assemble, and staple the coupon book.

Using magnetic block-out strips on certain portions of the master, the clerk can hold back portions of information from certain forms which do not require it.

Three basic sets of forms are used. Medical and surgical patients require an average of 33 forms, obstetrical cases, 32, and pediatric cases, 31.

In the obstetrical set, for example, are the following forms: two O.B. forms, two physical examination reports, two history reports, two laboratory reports, five nurses' reports for a week, anesthesia report, graphic chart, progress report, physician's order blank, clergyman's courtesy post card, clothes list, and coupon book.

All are duplicated at the same time. Formerly, the four papers of the physical examination and history reports were filled out by the intern or doctor; the balance were filled out by the nurse.

With an average of 20 admissions daily, elimination of nurses' time in filling out forms saves approximately 3½ hours daily. This saving applies only to new patients, and does not include time formerly necessary to compile forms for patients in the hospital for lengthy stays.

Greatest savings in the system come from use of the coupon book. Each book contains 15 to 25 pre-numbered and pre-printed charge slips. Information about the patient is entered via the duplicating system at the same time the patient's other entry forms are prepared.

The book is kept at the nurse's station. Each page is perforated and when removed leaves its corresponding numbered stub, just as in a check book.

*Designed by Ditto, Inc.

Below: Reproduction of page from coupon book. Actual size.

C. S. NO. 1

NAME		ROOM NO.	ADMITTING NO.		
DOCTOR ATTENDING	DATE AND HOUR ADMITTED	AGE	MARITAL	SEX	RACE
REQUESTED BY	DATE AND TIME OF REQUEST				

		PHARM.
		LAB
		X-RAY
		O.B./O.R.
		C. S.
		MISC.
BY	TOTAL CHARGE	

C. S. NO. 1

DATE OF REQUEST

PHARM.
LAB
X-RAY
O.B./O.R.
C. S.
MISC.

DESIGNATE

DITTOforms 5-55

ADMITTING

FORM NO ADM-5

NAME			ROOM NO.	ADMITTING NO.		
DOCTOR ATTENDING	DATE AND HOUR ADMITTED		AGE	MARITAL	SEX	RACE
ADDRESS CITY STATE			DISCHARGE DATE			
BIRTH DATE	BIRTH PLACE	TELEPHONE NO.				
SERVICE	TRANSFERRED	CHURCH ATTENDED		RELIGION		
OCCUPATION	ADDRESS AND NAME OF EMPLOYER					
RELATIVES NAME	ADDRESS		PHONE			
PLACE OF ACCIDENT						
DOCTOR			PRIVATE OR STAFF			
			PREV. ADM.-WHEN			
NAME	ADMITTING OFFICER		ROOM NO.			

31-55 FORMS & PATTERNS CO

Reproduction (actual size) of one of forms used. Intern, chaplain, switchboard, and record room also get forms like this. Variation of this form, with blank added for information on hospitalization insurance, employment status, room rate, responsible party, and intern, goes to admitting, credit office, and physician.

When the patient requires an x-ray, pharmaceutical supplies, laboratory test, or other service, the nurse simply checks the service wanted, and writes a few words of description. The patient identification heading already appears on every requisition slip.

Once the requisition has been filled by x-ray, pharmacy, or the lab, the slip becomes a bill for this service, going directly to the bookkeeping department.

Formerly, nurses had to complete each requisition individually with some 18 items. This took approximately six minutes per patient, and cost about $9,000 a year.

In addition, the technician in most of the departments formerly had to make up a separate bill, and itemize the charge to permit billing clerks to itemize the patient's bill.

After installing the new system, Riverside found the pharmacy alone was saving two hours daily with the coupon books. For all departments, the savings amount to about $15,000 a year.

The requisition charge slip plan provides a control to insure that the charge for each service rendered is made to the proper patient and account. Before a patient leaves the hospital, his requisition charge book goes to the accounting department, where the slips are checked against the stubs.

If any slips are missing, they are traced before it is too late. This takes approximately 3½ hours daily for all departments, and costs about $2,100. When this cost is deducted from the gross departmental savings, net savings are $12,900 yearly.

In addition to all these specific cost savings of the new integrated system, Mr. Zeiher credits the plan with eliminating many costly mistakes which resulted when information had to be hand-copied from one form to another.

The system is used approximately five hours daily, at a cost of 43 cents per admission. Riverside also uses the duplicator to turn out charts and graphs, diet lists, financial statements, reports, intern assignments, ruled forms, and a vast number of other aids.

In admitting office, patient (center) gives information to admitting clerk (r.). She enters data on the master form, which is then given to Ditto operator (l.) to duplicate all forms needed by patient during hospital stay. Among them is a government postal card for mailing to whatever clergyman the patient designates.

Billie Sylvester (l.), chief admitting officer, is shown in a typical interview in one of two admitting department cubicles.

At right: Mrs. Sylvester refers to patient roster, conveniently placed in hole cut out in wall separating two admitting cubicles. Both Mrs. Sylvester and clerk in other cubicle can use roster without getting up. A small rotary card file (not shown) contains names and addresses of doctors on staff (Doctors Hospital has an open staff).

Well-Placed Windows Let Visitors View Often-Hidden Departments

● The Doctors Hospital, Seattle, Wash., believes in letting visitors see "behind the scenes" in some of the departments which often are relegated to obscure corners in other hospitals.

One of the "showplaces" of the hospital for visitors, says Robert F. Brown, M.D., director, is the pump room (shown on opposite page). The room is on a main-floor corridor, through which visitors pass on their way to the cafeteria. A huge glass window enables them to see the machinery at work. Many stop to admire the bright-colored machinery and the spotless floor. Everything is color-keyed. Motors are painted yellow; driven machinery is blue. Piping is red for high pressure and black for low pressure.

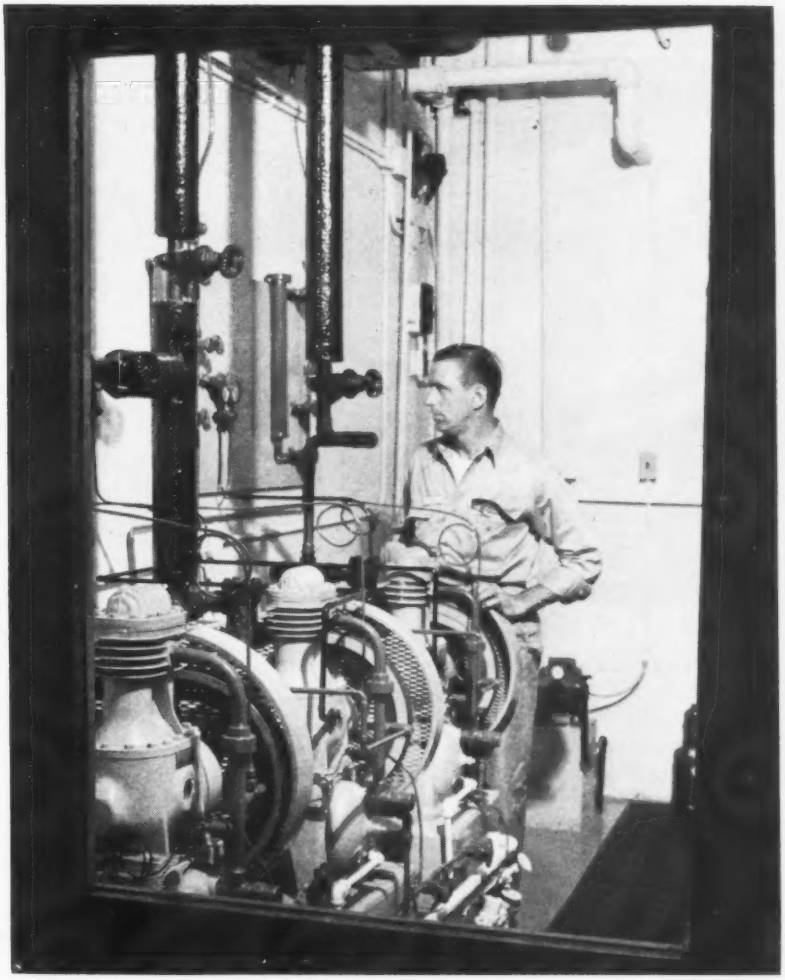
Previously, the machines were not uniform. Since they have been standardized and painted, visitors have shown great interest. A light is left on in the room, so that the pumps are visible at any time.

Why put usually-hidden departments on display? The public expects asepsis to be carried into the boiler room, says Dr. Brown. Seeing that even the machinery in the hospital is spotless helps build confidence in the hospital's high standards of patient care.

The display window on one wall of the admitting department has a slightly different purpose. It enables the admitting officer to see patients and doctors coming in the special entrance for patients.

The admitting office itself is quite a contrast to admitting offices in some hospitals. The waiting area is decorated in bright colors. Admitting interviews are held in two cubicles with bank-type partitions, which provide privacy and help the patient to feel more at ease.

The airy, well-lighted pharmacy, also on the main floor, has three plate-glass windows, including the one in the door, to make it easily visible to persons passing by. One window features displays which may be educational or amusing—sometimes both (see picture on opposite page).



At right: Frank Fischer, chief of plant operations, seen through huge window which places pumps on display. All refrigeration and spare parts are kept here. Machines, which have a capacity of 15 tons a day, are fully automatic, so that if one fails, another cuts in.

Below: Several windows enable passers-by to look into the attractively designed pharmacy. Window in the center is utilized for a display which is changed approximately twice a month. Sometimes it is historical (such as the one on the development of the U. S. Pharmacopoeia); sometimes, humorous—like the one during the football season, which was a football field made by arranging pills. Wilfred Knight, chief pharmacist, and Kay Hansen, pharmacist, are shown at work.

Proposed Twenty-One Story Hospital

● An ultra modern Mercy Hospital will be built in the downtown area of Baltimore. Because of restriction of space in the downtown area, it will tower 21 stories high.

The somewhat radical design will incorporate every proven medical and scientific innovation, and add some of its own, according to Maj. Gen. Henry C. Evans, chairman of the special campaign committee of Mercy's advisory board.

The ultimate goal of the fund will be $8,000,000. Plans call for a 350 to 400-bed hospital. The present hospital, operated by the Sisters of Mercy since 1874, has had no major addition since 1911.

Taylor and Fisher, local architects, are working with Westermann and Catalano, New York City. Anthony J. J. Rourke, M.D., is consultant to the architects and the hospital staff.

AMERICAN ASSOCIATION OF HOSPITAL CONSULTANTS

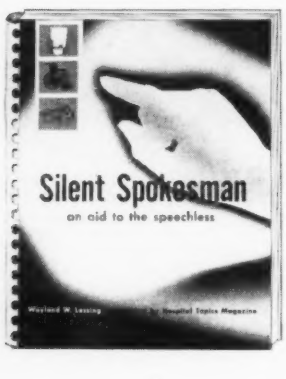
(Continued from page 18)

and other fractional hospitals.

Such a definition must make clear each fraction's objectives and resources and must, in effect, delineate the trained personnel needed to meet those objectives.

Administrators of 26 voluntary convalescent homes in the New York area have found much variation in objectives and in admitting procedures, patient care levels, and demand for service.

The most pressing problems of a majority of these convalescent homes have been the effects of changing medical treatment and the need for convalescent care as reflected in patients referred by physicians practicing in the community. One important factor is the virtual disappearance of certain illnesses which formerly required long-term convalescent care.—**George Bugbee**, President, Health Information Foundation, New York City.



NEW

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A time-saving "communication book" for every doctor, nurse, and attendant who has to deal with the patient handicapped by aphasia (loss of speech). Patients can make wants known by pointing to pictures of objects or to words and sentences which have been carefully selected to cover most common needs. Book eliminates frustrations of patient and nurse which result from patient's inability to make himself understood.

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Administrative Problems Involved in Having Different-Level Facilities

Patients, Doctors, Third-Party Agencies Factors in Any Change

Providing care facilities of different levels would present numerous administrative problems, involving not only the patients but also their families, the physicians, hospital personnel, and third-party agencies.

Patients will resist changes from one type of accommodation to another within the same institution simply because of changes in clinical requirements for nursing or other care.

The trend toward private and semiprivate care, paid for by third-party agencies, will continue to be a factor as long as voluntary prepayment plans continue to grow. Labor unions will also influence the relating of facilities to the degree of illness.

The externalization of hospital services through a growth of outpatient services, added to other developments, in time can make the inpatient service the smallest part of a hospital's operation.—**Morris Hinenburg, M.D.**, Medical Care Consultant, Federation of Jewish Philanthropies of New York, New York City.

Frank C. Frantz

The Nursing Problem

Fifth in a Series

Job Classification to Improve Nursing Personnel Utilization

By Frank C. Frantz*

• Obtaining maximum utilization of available nursing resources, in addition to proper scheduling and efficient work flow, calls for employing the highest strata of abilities of individual nurses and developing each nurse's potential abilities. These are elements of a career service approach to nursing personnel administration which is an aid to maximum utilization, to the extent that it is reflected in high working morale and reduced turnover.

Excessive personnel turnover robs our hospitals of a considerable amount of nursing manpower. The loss of a competent employee is regrettable in any department, but it is a matter of particular concern in nursing service because of its direct bearing on the problem of obtaining full utilization of available personnel.

In addition to the direct loss of production during the orientation period of the new employee, there are other intangible losses, because normal assignments and procedures are disrupted in the unit in which the replacement occurs and the working attitudes of the remaining staff may be adversely affected. It is impossible to have an efficiently functioning unit with an atmosphere of high morale where the staff is constantly in flux.

The payment of adequate salaries is only one requirement for retention of a stable work force. At least as important is that salary levels be established in a systematic and generally understood manner, and that salaries fairly reflect differences in difficulty and responsibility of jobs throughout the organization.

A feeling of confidence among employees that the salary administration system is designed to recognize objectively the differences among jobs, and that real possibilities exist for salary advancement through the assignment of higher-level work, will do much to prevent the dissatisfactions which lead to high turnover.

*Mr. Frantz is a personnel specialist with the firm of John G. Steinle and Associates, Garden City, N. Y.

JOB CLASSIFICATION AND SALARIES

The setting of salary rates and the administration of increases in an informal and unsystematic manner may cause problems even in a very small organization. Distortion of the salary structure through repeated yielding to individual pressures is almost inevitable. Management is vulnerable to charges of favoritism and neglect, even though such charges may not be justified. Employees generally lack confidence in such a system and thus do not develop confidence in their own future with the organization.

Job classification is gaining increasing acceptance as a necessary foundation for objective and equitable salary administration.

BY-PRODUCTS OF JOB CLASSIFICATION

Job classification is usually discussed in connection with its major role in salary administration. However, other benefits accrue to management from a program of analysis and systematic labeling of jobs.

This program can make a significant contribution to the improvement of organization and administration by providing an organized body of information on the distribution of functions among employees. The development of a job classification system requires an exhaustive study and analysis of the assignments to all employees, and provides an opportunity for observation, and a framework for correction of such problems as overlapping jurisdiction and duplication of assignments.

When properly administered, the classification program continues to provide in a convenient form current information on the delegations and assignments to each employee.

The development and maintenance of a classification program call for the active participation of the first level of supervision. This participation ordinarily has the effect of

(Continued on next page)

strengthening the positions of first-line supervisors, and to this extent improves the effectiveness of supervisory control.

APPLICATION TO CAREER SERVICE APPROACH

Hospital nursing as an occupation suffers from a traditional rank structure which does not recognize distinctions below the first full supervisory level. With the exception of those in a few specialty categories, a nurse who does not hold a head nurse or higher position has only one rank, one title, and one salary range available to her. The broad title, "general duty nurse," embraces a wide variety of types and levels of professional work.

The development of a career program for nursing personnel administration requires formal recognition of actual differences by type and level in the floor nursing service, and the systematic use of these different jobs as promotion ladders.

The completed structure of classified jobs is, in effect, a detailed table of organization, with every position fully described and shown in its proper relation to all others. In addition to its value in analyzing work distribution, this serves as a tool in planning to meet future needs of the organization. Inventories may be made of available personnel resources and the results compared with the requirements of established jobs.

The needs thus revealed can guide and increase the effectiveness of inservice training and professional development programs. Planning to fill anticipated vacancies by promotion from within, and the preparation of employees to assume higher positions can be systematized and made more effective.

INITIATING A CLASSIFICATION PROGRAM

The initial development and installation of a job classification system usually takes a fairly large expenditure of time, though in most cases the time is repaid to the institution multifold in management improvement. Once the program is in operation, one personnel technician should be able to adequately maintain a system involving 800 to 1,000 employees.

The best results usually are obtained by assigning the development of the system to someone not employed in the organization involved. Job classification may be applied to the entire hospital or to a definite part of the organization. We are concerned with its application to professional nursing personnel.

GATHERING JOB INFORMATION

The first step in the development of a classification program is to gather current, complete information on the duties and responsibilities actually carried out in each job. This part of the study has four phases.

1. Questionnaires. It is desirable to begin by providing each employee with a short questionnaire on which she should simply list the duties of her job as she understands them. The questionnaire completed by each employee should be reviewed and initialed by her immediate supervisor to assure accuracy and agreement as to the content of the job.

The chief values of the questionnaire are that it serves as a contact with every employee and as a means for every employee to participate in developing the program, and that it provides an occasion for each supervisor to review with her subordinates an outline of their assignments.

2. Interviews. The information received on questionnaires serves only as a starting point. Job information must be developed further in personal interviews with nurses. When two or more nurses perform substantially identical work, only one need be interviewed to obtain detailed job information.

The questionnaires are useful in judging whether any significant differences exist in employees' work. Supervisors also should be consulted to verify the similarity of jobs and to suggest an employee to be interviewed as a representative of the group.

3. Job Descriptions. A brief but complete description should be written for each different job in the organization. Written descriptions should follow a standard form and should avoid as much as possible the use of adjectives and subjective statements. Only one description need be prepared for a group of employees performing identical work.

In addition to serving as the basic written document in the classification system, job descriptions have a number of other uses. Collected in a manual, they are a convenient record of the distribution of functions among positions. Job descriptions also are valuable reference documents in recruiting to fill positions, or in planning lines of promotion in the organization.

4. Review and Agreement. Supervisors, besides being given the opportunity to review job questionnaire forms completed by their subordinates, should be asked to review and comment on descriptions of jobs in their units. Agreement should be sought among individual nurses, their immediate supervisors, and top supervision on the completeness and accuracy of descriptions.

CLASSIFYING THE JOBS

The classification process consists of sorting jobs by specialty or type and evaluating the level of operation of each job.

The first part of this process is reflected in titling. Titles should be descriptive of the work performed in each job.

Objective evaluation of job level is done by comparing the elements of difficulty and responsibility in each job to the same fixed standard. There are many elements of difficulty and responsibility in a group of jobs, but they can be grouped into a few broad factors.

Different numbers of factors can be used, and they can be defined in various ways, depending on the needs of the particular hospital. However, virtually all job elements can be classified under the following basic headings:

(1) Preparation required (education and previous experience)

(2) Complexity and variety of work

(3) Supervision received

(4) Supervision exercised

(5) Personal contacts with others

(6) Physical demands and hazards.

A scale of point values is assigned to each factor for use in rating positions. The point ranges are varied to reflect the relative importance of the factors in determining total job value. All jobs are then rated under each factor in turn, and total point scores are developed.

Good results often are obtained by the use of a small, working committee to select, define, and assign point ranges to the factors to be used.

THE GRADE STRUCTURE

The next step is to list the jobs in the order of total point scores. From this array, the grouping of jobs at several levels may be noted and a pattern of grade levels determined.

There is no set number of grades which is considered proper for a nursing organization. The number varies with the size of the hospital and with practices in the nursing department. Ordinarily, six to eight grades may be established. This number usually includes four or five distinct levels in the floor nursing organization at the head nurse level and below.

SALARY ADMINISTRATION

One of the major objectives of a job classification system is to provide a systematic method of recognizing differences in job levels through the salaries paid and achieving, thereby, greater equity in salary payment and greater opportunity for advancement of nursing personnel within the hospital organization.

Comparisons with salaries paid by other employers in the recruiting area usually serve as a guide in fixing salaries for certain grades. Salaries for all grades in the structure should be established so as to form an orderly progression.

A range of salaries should be used for each grade rather than a single salary rate. Differences in individual nurses, both in quality of performance and in length of service, may then be reflected in the salaries paid to nurses holding positions of the same grade.

The minimum rate of each range ordinarily is used as the beginning salary of a nurse newly assigned to the grade. Salaries should be increased periodically within the established range to recognize continued satisfactory or more-than-satisfactory service.

PERFORMANCE EVALUATION

The administration of this program calls for a formal system of periodic performance rating. The work of each employee should be reviewed and evaluated by her immediate supervisor at least once each year. These ratings should be reviewed by the director of nursing and should then form a partial basis for salary increases within established ranges. A rating form and a written procedure are necessary to assure uniformity of rating practices throughout the department.

Although there are many difficulties inherent in performance rating, especially for professional occupations, there are several definite advantages to be gained:

(1) Formal, uniform procedures are mandatory if the merit concept is to be used in salary administration.

(2) Employees can be assured of regular and equal opportunities for their work to be recognized.

(3) Supervisors are obliged at regular intervals to analyze the strong points and weaknesses of all nurses in the organization, and the director is kept informed about them.

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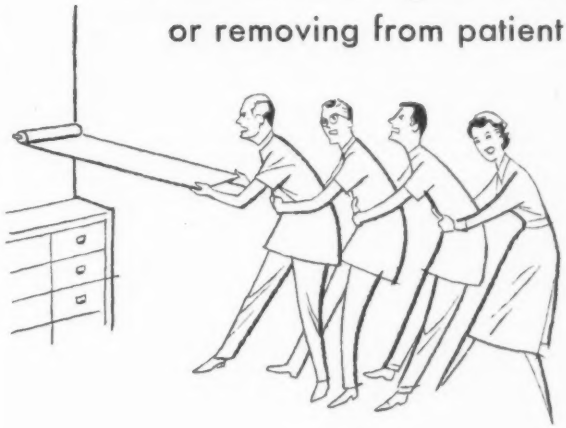

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Medical Staff Organization

Fourth in a series on hospital organization, based on lectures given at meetings of the Association of Western Hospitals and allied state groups

By John H. Gorby*

● Numerous court decisions have placed the responsibility for professional standards in hospitals squarely on the shoulders of the governing board. It is legally and morally the board's duty to protect the interest of the patient by maintaining high ethical and professional standards.

The principal means for maintaining professional standards are: potent bylaws, firmly and fairly enforced; careful selection of staff members and limited tenure; the joint conference committee; liaison with all departments of the hospital; the medical service audit; the clinico-pathological conference; the tissue committee, and standards for preoperative studies.

The bylaws of the medical staff and of the governing board must be enforced fairly and decisively by the president of the board, the chief of the medical staff, and the administrator.

LIMITED TENURE

Most bylaws, such as those suggested by the American Hospital Association, the American College of Surgeons, and the American Academy of General Practice, provide for annual appointments at all levels. The Joint Commission on Accreditation of Hospitals, in the "Standards for Hospital Accreditation" states in part: "Limited terms of appointment are preferred but not required. The prevailing custom is for a term of one year, with reappointments continued as long as qualifications remain satisfactory." (See section II 3c.)

Limited tenure has been found to be a powerful lever for inducing staff members to live up to their obligations. More and more hospitals are making appointments for one year only. It is acknowledged that some doctors are not team workers and do not fit amicably into the hospital organization, no matter how excellent their professional qualifications may be.

Occasionally, as in the academic field, an attempt is made to provide tenure to certain staff members. If it is ever necessary to remove any member with tenure, from the staff, it is exceedingly difficult for the board. While it may not be legally necessary to show cause for removal, the burden of proof, public-relations-wise, is on the board. The passive procedure of simply not reappointing a staff man, when annual reappointment is necessary, is much less disturbing.

JOINT CONFERENCE COMMITTEE

There are many disadvantages in having a staff member as a member of the governing board, yet the board must have full knowledge of the ideas, actions, and needs of the medical staff. This knowledge is provided in many hospitals by the joint conference committee, usually composed of three board members, three staff members, and the administrator. The committee studies all matters of common interest and makes suitable recommendations.

The principal function of the joint conference committee is to discuss and decide all matters that may cause friction within the hospital.

Proposed actions and policies are discussed, and their probable effects on the interests of the various hospital groups considered.

The hospital has a delicate and fluctuating balance of power among its three principal units — the governing board, the medical staff, and the administration.

Each of the units in this triangle has persons who are well educated, highly volatile, and strongly individualistic. Impatient under restraint, they are prone to act vigorously, and frequently outside the limits of their proper jurisdiction.

One responsibility of the governing board is to select members of the medical staff and to approve, or disapprove, their reappointments each year. To perform this duty, they need the information and advice that the medical staff is best qualified to give.

Laymen are generally believed to be more impartial in their judgment of medical candidates, less moved by professional jealousy and antagonism, but they have occasionally made bad selections. The joint conference committee is believed to provide the best safeguard against unfortunate selections. The qualifications of physicians nominated for staff membership should be thoroughly examined.

Another important duty of the committee is approval of the bylaws after they have been prepared by the medical staff. They are certain to contain controversial features which can best be discussed in a joint committee.

The committee offers the administrator, who is assumed to know all the answers, a chance to instruct staff and board members in their duties, obligations, and limitations, as well as in the financial and administrative problems of the institution. He can interpret to them the effect of proposed policies on their common objective—the welfare of the patient.

He can bring up details relating to accreditation of the hospital, and inform the other groups of the advantages of accreditation. Too many physicians and board members regard this as something for the administrator alone to worry about.

The committee has been found a valuable means of preventing undue influence by any one member of the board or staff. Minor transgressions can be brought to light and halted before they grow up to be accepted as customs.

Is a joint conference committee necessary for small hospitals?

Conditions which could be best corrected by such a committee have been observed in many small hospitals. Their organization is frequently quite casual, with many de-

*Administrator, La Mesa (Calif.) Community Hospital, and chairman, Community Hospital Section, Association of Western Hospitals.

tails of group relations left to the choice of individuals. The opinions of the more aggressive individuals prevail, even though they are not always the best. Members of the staff and of the board are poorly informed about their duties, responsibilities, and limitations.

The medical staff frequently fails to maintain good discipline among its members. This lack of discipline causes dissent in the whole hospital and is bad for public relations, because the whole community discusses the friction within the hospital.

MEDICAL SERVICE AUDIT

The medical service audit was originated by the late Thomas R. Ponton, and was first advocated by him in 1928.

It is practical for any hospital which has an organized medical staff and which maintains the minimum standards of records required for accreditation by the Joint Commission on Accreditation of Hospitals. In each instance the use of the medical service audit has increased the quality of patient care in the hospital and has stimulated the medical staff to a constant review and self-criticism of its work.

The audit may be made by a member of the hospital organization or by a competent, disinterested, outside person. When the first method has been tried, it has been found almost impossible to exclude favoritism.

The auditor studies the record of each patient treated by each physician. The prognosis at the time of admission is evaluated and compared with the actual outcome. This requires careful, uniform records throughout the hospital, based on adequate study of the case by the attending physician.

On admission the patient is classified for treatment as elective, palliative, or emergency; the risk as good, fair, or bad. The record must show the physician's reason for classifying his patient in the category he selects.

For each physician the auditor tabulates errors, percentage of consultations, autopsy rate, percentage of infections after operations, and the percentage of normal tissues found by the pathologist. Consideration is also given to the physician's presentation of his case in medical staff meetings and in clinical pathological conferences.

If the audit is a continuous one, the statistician records the results for each physician in the physicians' index, maintained in the medical record office. Any physician may see his own portion of the index at any time.

A committee of the medical staff studies the monthly report and uses it as a basis for recommendations to increase or to limit the privileges of any staff member. Results for each clinical department are tabulated. These often give valuable information about the success of various technics and operations, point to the weak and strong members of the staff, and indicate steps to be taken to protect the interest of the patient. Deficiencies in equipment and administration may also be demonstrated.

When an annual, or occasional, audit is made by an outside physician, his report goes to a committee of the medical staff. Each physician is indicated by a number, not by name. The committee has the key to the individuals, and recommends to the staff conference any action that should be taken.

ADVANTAGES

The medical service audit has many advantages. The patient benefits because the physician is induced to give

(Continued on next page)

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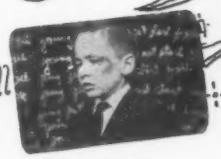

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each case his most careful attention. The hospital benefits because the results of patient care are improved, and this is reflected in better public relations. The physician benefits because comparison of his skill with that of his colleagues shows up the weak spots in his methods and leads to professional improvement.

This survey makes it possible to assign privileges to individual physicians in accordance with their competence. It offers the most valuable method for the governing board to carry out its legal and moral duty, and to maintain high professional standards. It recognizes the fact that the reputation of a physician may have little relation to his professional ability and training.

Suitable protective steps should be taken against these possible contingencies:

(a) The record may be subpoenaed as evidence in a malpractice suit against a physician. It is better to keep no permanent record of the errors after a staff committee is informed about them.

(b) No one auditor can have full knowledge of each case and of all the hospital conditions that may influence the outcome of a case. To avoid injustice, it is customary to have the report studied and the final recommendation for action made by a staff committee.

(c) The report might be used to damage the reputation of a physician. To avoid this, the report should indicate physicians by number, not by name. The key should be given only to the chief of staff or an authorized committee. Individual physicians should be allowed to see only their own listings.

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By Louis Block, Dr. P.H.

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The death rate as a guide should be avoided. Hospitals with the most competent doctors often have the highest death rate, because they get the more serious cases. A physician who has acquired special skill in treating the graver diseases will get a disproportionate number of such cases, and so have a very high death rate. Dermatologists and psychiatrists may have a death rate close to zero.

CLINICO-PATHOLOGICAL CONFERENCE

The "Standards for Hospital Accreditation" state that in well-organized and departmentalized hospitals, departmental conferences and clinico-pathological conferences may be substituted for meetings of the entire staff, provided that all of the medical work of the hospital is covered by one or another of such conferences, and that at least one meeting of the entire medical staff is held during each quarter of the year. The clinico-pathological conferences should be held at least monthly throughout the year.

The clinico-pathological conference has proved to be a valuable means of maintaining a high level of professional work in the hospitals of all sizes. It does not save any lives directly, but it throws the spotlight on weak points in the professional care of patients.

It aids in preventing unnecessary surgery and operations by incompetent surgeons. The public has been made aware of these dangers by articles in magazines of general circulation. The conference is valuable evidence of the desire of the medical staff to continue its education and to improve the quality of its work. Thus it aids the reputation of the hospital and its medical staff in the community.

It protects the interest of the patient by pinpointing weak spots in medical care that need correction. It is an important guide, indicating what surgical privileges should be granted to individual physicians. It helps the small hospital to become a teaching center.

If the hospital has a full-time pathologist, he conducts the conference. The data from the patient's records are usually compiled for his use by the hospital's record librarian.

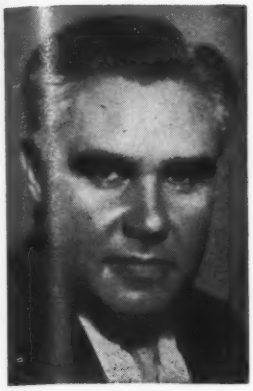
Some community hospitals that are too small to have a full-time pathologist have the work done by contract with a qualified specialist, who also comes in to conduct the conference. In some instances a hospital council contracts with a local pathologist to conduct the conferences for several small hospitals.

Cases presented for study should include all surgical deaths, all puzzling cases, and all cases with complications, including infected surgical wounds, extreme gas distention, atelectasis, or any unfavorable details of the postoperative course.

In each case the pathologist presents the physician's preoperative diagnosis and prognosis, pertinent details of surgical and other treatment, consultation reports, the anesthetist's record, and reports on tissue removed. He explains the true diagnosis, summarizes the good and faulty features of the treatment, and invites discussion on ways of improving procedures in the hospital.

The patient's complete chart, together with x-ray studies, laboratory reports, and any data relating to the patient's stay in the hospital, should be available for the conference. An opportunity should be given to the doctor who is to present the case to review the material before the meeting starts.

Next month additional material will be presented on methods of assuring quality medical care.



John G. Steinle

Consultant's Corner

a new feature

By John G. Steinle

• We recently received a very interesting inquiry about the methods used by management consultants in making their studies of hospitals. It was too long and involved to quote verbatim, but the essence of it was that a department head had not been extensively interviewed and could not understand how an effective study could be made of his unit unless a great deal of time was spent obtaining his opinion, attitudes, and procedures.

Each firm has its own methods for conducting a study. The same firm may use different methods, depending on the scope of the project and the areas involved. Very often emphasis is placed, in the fact-finding phase, on objective data such as budget documents, fiscal reports, copies of correspondence, and accounts. In such instances, personnel interviews are often purely supplemental.

I believe in substantial personnel interviewing. Often employees have excellent ideas that have not been explored, and experience that should be tapped. Also, new methods and technics will be more quickly accepted by employees if they are discussed before made as final recommendations.

Best results are never achieved if the personnel feel that they are being "investigated." I believe that only by working closely with the administrator, the department head, and the employees can the consultant gain the advantage of their experience and they, an understanding of his ideas.

Q. Is there a good formula for the outpatient needs of the community?

A. There are many factors which affect not only the need but also the utilization of outpatient facilities. Theoretical need and utilization may be entirely different. The services offered, the facilities made available, and many other factors affect utilization. The attitude of the medical staff will affect the acceptance of, as well as the quality of, service.

Community resources also have a definite effect on the utilization of outpatient services. If a community has a number of social agencies that refer patients to the outpatient clinics, there will be a tendency towards high utilization.

As to theoretical need, probably the best formula for number of families to be served is 2½ times the total welfare case load of the area. This is based on experience that there are 1½ medically indigent patients to each welfare case. The total welfare load, including old-age assistance, aid to dependent children, aid to the totally disabled, and aid to the blind, as well as all general relief cases, should be considered in the computation.

The number of persons to be served may be computed by multiplying the total families by 2.8. This is somewhat less than the number of persons per family on a national average. It takes into account the high number of single persons, in the older age bracket, that are receiving some kind of welfare assistance.

In order to compute the annual number of visits, the number of persons to be visited should be multiplied by four, the average number of visits per year, per person served. Thus, in a community that has 100 welfare cases, 250 families will need outpatient services (2½ times the welfare load). This represents 700 persons (an average of 2.8 persons per family); or an annual expected work load of 2,800 visits. Another way of expressing this formula is 28 annual visits per welfare case.

The relationship of inpatient to outpatient service is very important. For an effective outpatient service, there must be sufficient beds to hospitalize the outpatient when necessary, or the interest of the staff assigned to the outpatient department will not be maintained.

Where we have studied in detail the admission of outpatients to inpatient services, we have found that approximately five percent of the visits require hospitalization. Continuing with the above example, then there would be an expected need for 140 annual admissions (five percent of 2,800). This, of course, can very easily be reduced to bed need by multiplying by the average day stay and dividing 292. The latter figure represents the annual number of hospital days per bed at 80 percent occupancy.

Q. What is the best way to clean the lens of a cystoscope? We continually get moisture in the head of the cystoscope. What is the probable cause, and how can this be prevented?

The following information we obtained from a leading manufacturer:

A cystoscope can best be cleaned with a toothpick. Break off the end and use the broken head for cleaning. The fibers of the toothpick will not adhere to the glass surface of the lens, as will softer substances.

If you are constantly getting moisture in the head, it probably is due to "leakage" at the point where the light is screwed in. This condition usually occurs when insufficient wax is applied at the threads. Too much wax cannot be applied. It serves many functions. It seals, lubricates, and preserves.

(Continued on page 38)

Ready Reference of Hospital Facts

For Planning and Operation

Part XII

By Louis Block, Dr., P.H.

Mental Hospitals in the United States

● From 1946 to 1954 the activities of the mental hospitals in the United States have markedly increased. They now account for 7.9 percent of all hospitals; 43.8 percent of all beds; 49.8 percent of the average days of care provided; 1.4 percent of all admissions, and 15.0 percent of all expenses.

Facilities:

1. The number of hospitals has increased by 78 (from 476 to 554)—an increase of 16.4 percent.

2. The number of beds has increased by 122,703 (from 568,473 to 691,176)—an increase of 21.6 percent.

Utilization:

1. The average daily census has increased by 151,278 (from 517,185 to 668,463)—an increase of 29.3 percent.

2. The percentage of occupancy has increased from 91.0 percent to 96.7 percent.

3. The number of admissions has increased by 86,676 (from 202,114 to 288,790)—an increase of 42.9 percent.

Finances:

1. Total assets have increased $965,793,000 (from $965,549,000 to $1,931,342,000)—an increase of 100.0 percent.

2. Total expenses have increased $523,190,000 (from $262,424,000 to $785,614,000)—an increase of 199.4 percent.

3. Total expenses per patient day have increased $1.83 (from $1.39 to $3.22)—an increase of 131.7 percent.

4. Payroll expense has increased $342,521,000 (from $151,558,000 to $494,079,000)—an increase of 226.0 percent.

5. Payroll expense per patient day has increased $1.23 (from $0.80 to $2.03)—an increase of 152.5 percent.

Personnel:

1. The number of full-time personnel has increased by 79,598 (from 98,831 to 178,429)—an increase of 80.5 percent.

2. The number of full-time personnel per 100 patients has increased by eight (from 19 to 27)—an increase of 42.1 percent.

The following presents pertinent facts concerning the average mental hospital in the United States.

The Average Nonprofit Mental Hospital in the United States*

Facilities:

1. Number of beds	141
2. Number of major operating rooms	1
3. Number of minor operating rooms	1

Utilization:

1. Number of annual adult admissions	460
2. Average daily adult census	115
3. Percentage occupancy	81.6
4. Average length of adult stay in days	91.3

Financial:

1. Total assets	$1,213,887
2. Plant assets	$859,803
3. Percent plant assets of total assets	70.8
4. Total annual expenses	$514,028
5. Total expenses per patient day	$12.24
6. Annual payroll	$292,690
7. Payroll per patient day	$6.97
8. Percent payroll of total expenses	56.9
9. Percent hospitals requiring funds for replacement	75.7
10. Number of $ per hospital required for replacement	$294,229

Services:

1. Percent of hospitals offering:	
a. Blood bank	3.2
b. Cancer clinic	0.0
c. Central supply room	27.0
d. Children's education program	7.9
e. Clinical laboratory	73.0
f. Dental department	34.9
g. Electrocardiograph	58.7
h. Electroencephalograph	34.9
i. Hospital auxiliary	25.4
j. Library, medical	65.1
k. Library, patient	81.0
l. Medical record department	77.8
m. Mental hygiene clinic	23.8
n. Metabolism apparatus	55.6
o. Occupational therapy department	87.3
p. Outpatient department	60.3

*Based on information in American Hospital Association's Administrators Guide Issues (1951-1956).

q.	Pharmacy	58.7
r.	Physical therapy department	47.6
s.	Postoperative recovery room	4.8
t.	Premature nursery	0.0
u.	Radioactive isotopes	1.6
v.	Rehabilitation department	9.5
w.	Social service department	47.6
x.	X-ray diagnosis	47.6
y.	X-ray, routine chest, on admission	30.2
z.	X-ray therapy service	6.3
aa.	Organized training programs for auxiliary nursing personnel	16.9

Personnel:

1.	Number of full-time personnel	117
2.	Number of full-time personnel per 100 patients	101
3.	**Nursing personnel:**	
a.	Total graduate nursing personnel	21
(1)	Administrative graduate nursing personnel	2
(2)	Full-time instructors	1
(3)	Supervisors and assistants	3
(4)	Head nurses and assistants	5
(5)	General duty nurses, full-time	7
(6)	General duty nurses, part-time	2
(7)	Nurses not classified	1
b.	Private duty nurses	4
c.	Practical nurses	11
d.	Attendants	26
e.	Nurses' aides	27
f.	Ward maids	6
g.	Orderlies	13
4.	**Medical technologists:**	
a.	Registered, full-time	0
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
5.	**X-ray technicians:**	
a.	Registered, full-time	0
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
6.	**Occupational therapists:**	
a.	Registered, full-time	1
b.	Registered, part-time	0
c.	Other full-time	2
d.	Other part-time	1
7.	**Physical therapists:**	
a.	Registered, full-time	1
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
8.	**Dietitians:**	
a.	Full-time	1
b.	Part-time	0
9.	**Medical social workers:**	
a.	Full-time	2
b.	Part-time	0
10.	**Pharmacists:**	
a.	Full-time	1
b.	Part-time	0
11.	**Medical record librarians:**	
a.	Registered full-time	0
b.	Registered part-time	0
c.	Other full-time	1
d.	Other part-time	0
12.	**Other medical record personnel:**	
a.	Full-time	3
b.	Part-time	1

— DEPARTMENTAL —

Governing board:

1.	Number of members	12

Medical staff:

1.	Percent hospitals with chief of staff	88.3
2.	Percent hospitals with chiefs of services	31.7
3.	Percent hospitals with written set of staff regulations	65.0
4.	Percent hospitals with regularly scheduled meetings of staff	73.3
5.	Percent hospitals with standing committees of staff	41.7
6.	Percent hospitals with executive committee of staff	50.8
7.	Percent hospitals with medical record committee of staff	26.2
8.	Percent hospitals with credentials committee of staff	27.7
9.	Percent hospitals with tissue committee of staff	0.0
10.	Percent hospitals with education committee of staff	35.4
11.	Percent hospitals with pharmacy committee of staff	13.8
12.	Percent hospitals with dietary committee of staff	9.2
13.	Percent hospitals with nursing committee of staff	27.7
14.	Percent hospitals with other committees of staff	13.8
15.	Number of staff physician appointments	22
16.	Number of active staff	9
17.	Number of active staff per 100 beds	6
18.	Number of associate staff	1
19.	Number of associate staff per 100 beds	1
20.	Number of courtesy staff	3
21.	Number of courtesy staff per 100 beds	2
22.	Number of consultant staff	8
23.	Number of consultant staff per 100 beds	5
24.	Number of honorary staff	0
25.	Number of honorary staff per 100 beds	0
26.	Number of other staff appointments	0
27.	Number of other staff appointments per 100 beds	0
28.	Percent hospitals having psychiatrist on staff	93.4

(Continued on next page)

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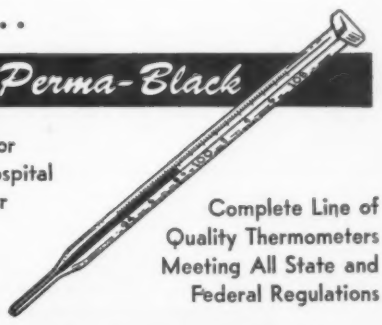

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READY REFERENCE continued

29. Percent hospitals reporting surgical restrictions on staff	63.6
30. Percent hospitals permitting non-staff members to practice in hospital	20.4
31. Percent hospitals providing examining rooms for ambulatory patients of medical staff	59.1
32. Percent hospitals having private physicians' offices in hospital or on hospital grounds	36.6
33. Percent hospitals having x-ray facilities available to private ambulatory patients of staff	32.4
34. Percent hospitals having laboratory facilities available to private ambulatory patients of staff	40.8
35. Percent hospitals accredited by the Joint Commission on Accreditation of Hospitals	31.0

Administrator:

1. Percent hospitals in which chief administrative officer is a physician	41.0
2. Percent hospitals in which chief administrative officer is a graduate nurse	24.6
3. Percent hospitals in which chief administrative officer is other than a physician or nurse	34.4
4. Percent hospitals in which chief administrative officer is a graduate of college course in hospital administration	12.7
5. Percent hospitals in which chief administrative officer is a male	68.9
6. Percent hospitals in which chief administrative officer is a female	31.1
7. Percent hospitals in which one or more persons perform full-time as assistant administrator	50.8
8. Percent hospitals having administrative staff member on duty at night	47.6
9. Percent hospitals delegating administrative responsibility to night supervising nurse	39.7

Laboratory:

1. Percent hospitals having all tissue removed at surgery routinely examined by a pathologist	55.6
2. Percent hospitals having urinalysis on all admissions	81.5
3. Percent hospitals having blood count on all admissions	75.9
4. Percent hospitals having serological examinations for syphilis on all adult admissions	77.8
5. Percent hospitals having electrocardiographs on all admissions over 45 years of age	25.9
6. Percent hospitals having Rh grouping on all pregnancy cases	3.7
7. Percent hospitals having preoperative blood grouping on all surgical cases.	3.7
8. Percent hospitals having preoperative coagulation on all tonsillectomies	3.7
9. Percent hospitals having postoperative urinalysis on all surgical cases	1.9
10. Percent hospitals having no tests without doctors' orders	13.0

Pharmacy:

1. Percent hospitals operating pharmacies	55.0
2. Of those hospitals operating pharmacies, percent having full-time licensed pharmacist	57.6
3. Of those hospitals operating pharmacies, average number of full-time pharmacists	1.1
4. Of those hospitals operating pharmacies, percent manufacturing parenteral solutions	3.0
5. Percent of hospitals having formulary	52.4

Outpatient Department:

1. Percent hospitals having one or more outpatient clinics	44.2
2. Number of annual clinic visits	1,171
3. Number of annual private outpatient visits	1,906
4. Number of annual emergency visits	744

Medical Records:

1. Percent hospitals microfilming medical records	1.7
2. Number of annual deaths	16
3. Number of annual autopsies	2
4. Percent autopsies of deaths	10.8
5. Number of annual deaths released to legal authorities	1
6. Percent hospitals using Standard Nomenclature of Diseases and Operations	90.0

Admitting:

1. Percent hospitals using typewriter system for duplicating admitting records	62.5
2. Percent hospitals using mimeograph system for duplicating admitting records	3.6
3. Percent hospitals using liquid and gelatin system for duplicating admitting records	1.8
4. Percent hospitals using plate imprint system for duplicating admitting records	0.0

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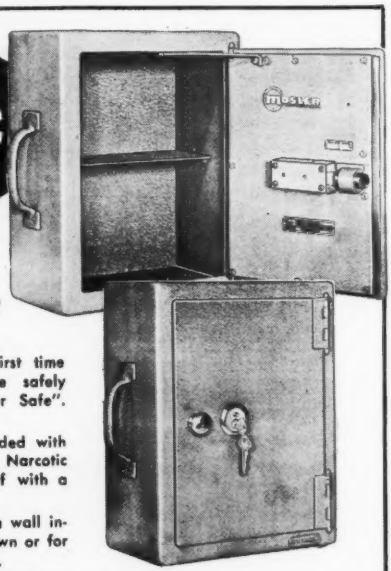

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5. Percent hospitals using hand entry system for duplicating admitting records 14.3
6. Percent hospitals using other systems or combinations of above for duplicating admitting records 17.8
7. Percent hospitals routinely treating the following types of patients:
   a. Alcoholics 53.8
   b. Cancer 1.5
   c. Cardiac 3.1
   d. Dermatologic 3.1
   e. Drug addiction 49.2
   f. Epileptic 43.1
   g. Gynecologic 3.1
   h. Isolation (contagion) 1.5
   i. Leprosy 0.0
   j. Medical 7.7
   k. Mentally deficient 29.2
   l. Neurologic 49.2
   m. Obstetric 0.0
   n. Ophthalmic 3.1
   o. Orthopedic 3.1
   p. Otorhinolaryngologic 3.1
   q. Poliomyelitis 1.5
   r. Psychiatric 90.8
   s. Surgical 4.5
   t. Tuberculosis 1.5
   u. Urologic 3.1
   v. Venereal disease 3.1
   w. Acutely ill 87.7
   x. Chronically ill 70.2
   y. Students exclusively 0.0
   z. Convalescent and rest 28.1
   aa. Geriatric 40.4
   bb. Industrial 1.8
   cc. Pediatric 3.5
   dd. Prisoners exclusively 0.0

Accounting:

1. Percent hospitals with ending date of fiscal year in:
   a. January 0.0
   b. February 6.9
   c. March 1.7
   d. April 0.0
   e. May 12.1
   f. June 13.8
   g. July 1.7
   h. August 1.7
   i. September 6.9
   j. October 0.0
   k. November 8.6
   l. December 46.6
2. Percent hospitals which calculate depreciation 75.0
3. Percent hospitals which fund depreciation 20.5
4. Percent hospitals operating under formal budgets 46.6
5. Percent hospitals using AHA chart of accounts 36.7

Purchasing:

1. Percent hospitals with central purchasing department 86.4
2. Percent hospitals with central purchasing departments with full-time purchasing agent 33.3
3. Percent hospitals with central purchasing department with part-time purchasing agent 58.8
4. Percent hospitals with central purchasing department with no reply as to purchasing agent 7.8

Public Relations:

1. Percent hospitals using booklet for employees 26.2
2. Percent hospitals using booklet for patients 26.2
3. Percent hospitals using regularly published house organ 30.8
4. Percent hospitals using printed annual report 33.8
5. Percent hospitals using patient opinion poll 14.8
6. Percent hospitals using personnel opinion poll 9.3
7. Percent hospitals using medical staff opinion poll 14.8
8. Percent hospitals using community opinion poll 0.0
9. Percent hospitals using none of these 75.9

Dietary:

1. Percent hospitals with central food service layout 75.0
2. Percent hospitals with decentralized food service layout 25.0
3. Percent hospitals with selective menus for all patients 17.6
4. Percent hospitals with selective menus for private patients only 5.9
5. Percent hospitals not offering selective menus 76.5
6. Percent hospitals with manual and centralized dishwashing 15.5

(Continued on next page)

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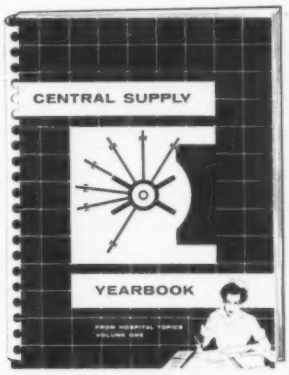

HOSPITAL TOPICS was the first hospital publication to recognize the importance of the central supply department by establishing a special section for its personnel. From those articles the editors have carefully selected the ones which appear in this yearbook. They deal with every major CSR problem, whether it's methods of sterilization, inservice training, or work simplification. Among the authors: Margaret K. Schafer, R.N., Frederick Markus and Jean Christie, R.N., Velma Chandler, Ph.D., Betsey Carroll, R.N.

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READY REFERENCES Continued

7. Percent hospitals with manual and decentralized dishwashing 19.0
8. Percent hospitals with mechanical and centralized dishwashing 53.4
9. Percent hospitals with mechanical and decentralized dishwashing 20.7

Laundry:

1. Percent hospitals operating own laundry and processing all soiled linen 62.5
   a. Number of pounds processed per week 8,816
   b. Number of pounds processed per patient day 5.5
2. Percent hospitals operating own laundry and processing only a part of soiled linen 12.5
   a. Number of pounds per week 9,505
   b. Number of pounds per patient day 9.2
3. Percent of hospitals not operating own laundry 25.0
   a. Number of pounds processed per week 951
   b. Number of pounds processed per patient day 2.1

Auxiliaries:

1. Percent hospitals having organized auxiliaries 24.2

Safety:

1. Percent hospitals with organized safety committee 53.7
2. Percent hospitals with written fire emergency and evacuation plans 83.6
3. Percent hospitals with regularly scheduled fire drills 63.0
4. Percent hospitals having own written plan for mobilization of employees and medical staff 35.6
5. Percent hospitals whose written plan is integrated in master community plan 20.3
6. Percent hospitals represented on a community disaster planning committee 50.0

Religious:

1. Percent hospitals with a chapel 50.0
2. Percent hospitals with a meditation room for prayer 16.7
3. Percent hospitals with organized visiting clergy staff 17.9
4. Percent hospitals having chaplains available 85.2
5. Percent hospitals with full-time chaplains 26.2
6. Percent hospitals with part-time chaplains 18.0
7. Percent hospitals with chaplain on call only 37.7

CONSULTANT'S CORNER

(Continued from page 33)

Q. What do you think of pension plans? Are many hospitals installing them?

A. Industry has long recognized the importance of pension plans as a means of reducing personnel turnover and improving morale. Pension plans vary from restricted plans covering only top management to comprehensive plans covering all personnel; from sharing plans, with part of the cost of premiums paid by the employee and part by the employer, to non-sharing plans paid entirely by the employer or, in some instances, entirely by the union. The amounts, dates of maturity, and other factors also vary.

In general, most management authorities recommend pension plans, provided they are geared to the requirements of the particular organization. A decision should first be made as to whom to include in the plan.

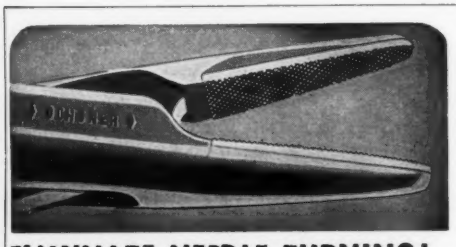
Since the objective is to stabilize personnel, it should be determined which personnel must be retained to provide a basic stabilization. These are the minimum persons who should be covered in a plan.

Each year more hospitals, particularly large ones, are installing pension plans of one kind or another. In addition, many hospitals have developed annuity plans as part of the compensation agreements for radiologists, pathologists, and anesthesiologists.

Q. What is the average per patient day cost for raw food?

Obviously this varies, depending on a number of factors, including quality of food service, purchasing methods, size of hospital (quantity purchased), and accounting practices. The latter factor is very important. Hospitals often do not distribute their raw-food costs according to appropriate accounts. Complete allocation would include patient meals, cafeteria, and special events.

We find that raw-food costs, if properly accounted, vary from $1.15 to $1.35 per patient day.



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is the incidence of cross infection getting to be a problem in your hospital — despite stringent aseptic technics?

Because of the basic nature of hospital service, keeping cross infection to a minimum has always been a difficult task. With antibiotics or other systemic antibacterials controlling the primary infection in most patients, reducing cross contamination may well depend upon making the total hospital environment as aseptic as possible. This, of course, is far from a new idea—but the prevalence of highly virulent, antibiotic-resistant organisms has accentuated the need for increased vigilance and control. Every hospital and physician knows the havoc that can be created by cross infection with antibiotic-resistant streptococci and staphylococci.

Whether infections are caused by contact with contaminated surfaces or objects, by breathing in dust containing viable organisms, or by contaminated dust settling on wounds—critical evaluation of both disinfection procedures and the disinfectant used may help solve the problem. For instance, regular mopping of all floors with a good disinfectant can remove the source of stirred-up contaminated dust.

How good does a disinfectant have to be?

It should approach the "ideal" as closely as possible. Most frequently mentioned requirements for the ideal disinfectant are that it be: microbicidal rather than inhibitory in use dilutions; not poisonous or irritating; rapid in action against a wide range of organisms; active in the presence of extraneous organic matter; not corrosive or staining; soluble in water; effective at ordinary temperatures; a good wetting agent; inexpensive; and stable for long periods of time.

Why is it important for a disinfectant to kill a wide range of organisms?

By definition, a disinfectant *is* a chemical substance which destroys all common pathogenic organisms. Some so-called disinfectants which do not kill all the commonly harmful microorganisms, including tubercle bacilli, are not actually fulfilling their purpose. For example, pine oil compounds are ineffective against staphylococci, while quaternary ammonium compounds are inactive against tubercle bacilli or pathogenic fungi. Enteric pathogens transmitted primarily by contact, respiratory pathogens spread by inhalation of contaminated dust, and fungi, such as those causing athlete's foot, can be destroyed at the same time using Lysol,® O-syl,® or Amphyl.® They are all-purpose, broad-spectrum phenolic type disinfectants.

Is tuberculocidal action necessary?

With 400,000 active TB cases in the United States today, and 100,000 new ones being reported each year, preventing the spread of tuberculosis is still a problem. Tubercle bacilli can live for weeks on inanimate surfaces and be stirred into the air and then inhaled. To control this source of infection, the disinfectant must penetrate the waxy covering of the tubercle bacillus and kill it. Lysol, O-syl, and Amphyl are all tuberculocidal and are recommended for concurrent and terminal disinfection of all premises occupied by tubercular patients. Tuberculocidal action is important for disinfection of thermometers as well as of instruments used to examine body cavities since these may touch unrecognized sources of tubercular infection.

Does the presence of organic matter affect the efficiency of the disinfectant?

It depends on the type of disinfectant. With Lehn & Fink disinfectants, which are synthetic phenolics, bactericidal, fungicidal and tuberculocidal efficiency is retained. Dilutions recommended for various applications of Lysol, O-syl, and Amphyl are for use in the presence of organic matter.

Is standardising on one disinfectant of any advantage to the hospital?

Besides the extra assurance of knowing that the same efficient disinfectant is being used throughout the hospital, there is a financial saving possible through volume discounts.

Do Lysol, O-syl, and Amphyl do the same disinfecting job?

Any one of them kills bacteria, fungi, and TB bacilli efficiently, but each has individual characteristics.

Lysol was far ahead of its time when introduced over fifty years ago. Recently the formula was improved; the odor was lightened and toxicity was reduced so that the "poison" label is no longer needed. Many hospitals prefer Lysol because of its long reputation for dependability. The characteristic odor is preferred by many for psychological reasons or as an indication that disinfection with Lysol has just been done.

O-syl is preferred by hospitals wanting all the germicidal efficiency of Lysol but without the odor. It is practically odorless when diluted for use. Like Lysol, O-syl is highly concentrated. Only a 1% solution of either (1 part to 100 of water) is needed for most applications.

Amphyl is also odorless when diluted for use. Convenience and low cost due to its high concentration often make Amphyl the disinfectant of choice. Amphyl is twice as powerful as Lysol or O-syl but does not cost twice as much. A ½% solution (1 part in 200 of water) is sufficient for general disinfection so that the cost per gallon of "use dilution" is less than with Lysol or O-syl. When expected contamination is great, as in TB or isolation wards, Amphyl is often preferred.

Do you have special problems in disinfection?

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REVIEW OF HOSPITAL

LAW SUITS

By Leo Parker, Attorney at Law

• City Not Liable or Prisoner's Care

• Insurance Policy Limitations

● A city is not liable for medical and hospital care furnished a disabled person brought to the hospital by a city police officer, according to a recent higher-court decision.

In Trinity Hospital v. City of Minot, 76 N.W. (2d) 916, the testimony disclosed that a man named Githens was shot and wounded by a police officer of the City of Minot while he was fleeing from the scene of a burglary he had perpetrated.

The officer notified police headquarters of the shooting and asked for an ambulance. An ambulance was sent immediately, and the wounded man was taken to the Trinity Hospital. Dr. Devine was also called to be on hand when the ambulance arrived at the hospital. Githens lived for some time and was furnished hospital service and medical attention by the plaintiffs.

When an inquest was held after his death, the coroner's jury returned a verdict of justifiable homicide. It was not contended that the shooting was unlawful or unjustified.

The Trinity Hospital and Dr. Devine sued the city to recover for the hospital and professional services rendered Githens. The higher court held the city not liable and explained that the police officer had no authority to create a liability against the city for medical services or hospital care furnished to a wounded prisoner, and that as the city assumed no obligation to pay for such services it was not liable for such services or care. The court said:

"A policeman has no authority to make a binding contract for or create any contractual liability against the city. Those powers are vested in the city council. We have reached the conclusion that the police officers of a city have no authority to create a liability against a city upon a contract express or implied for medical services or hospital care furnished a person in their custody and one furnishing such services or care may not recover from the city therefor in the absence of an agreement, acceptance, or ratification on the part of the governing body."

HOSPITALIZATION POLICY IS LIMITED

Limitations in an insurance policy for hospital services are valid, according to a recent higher-court decision. This higher court also held that no interest or penalty or attorney fees can be collected from the insurance company for delinquent payment, unless the hospital makes a "demand" on the insurance company for payment, and that an ordinary bill from a hospital is not a "demand."

For example, in Preferred Life Insurance Co. v. Stephenville Hospital, 256 S.W. (2d) 1007, it was shown that a hospitalization insurance policy issued to Mary Aylor by the company contained the following clause: "If the insured (Aylor) or any member of the family group shall be necessarily confined within a recognized hospital as a resident patient on account of such injury or sickness, the company will pay the insured (or the hospital if authorized by the insured to do so) for the following items of hospital expense actually incurred but not to exceed the amounts stated below."

Then followed such allowable items as a limitation of $8 per day for meals and general nursing care; laboratory service, not to exceed $7.50, and other similar items.

Because some hospitals in the state had experienced considerable delay and difficulty in collecting hospital bills from certain insurance companies, the state passed a law which provides that when an insurance company fails to pay a hospital bill of the insured "within 30 days after demand" the insurance company shall be liable to pay to the hospital 12 percent damages, together with reasonable attorney fees for the prosecution and collection of money due.

Mary Aylor was admitted to the Stephenville Hospital, which extended its services and facilities during her illness and until the time of her death. In writing, she authorized the hospital to collect all benefits due under the insurance policy and authorized the insurance company to pay the costs of such benefits to the hospital.

The Stephenville Hospital mailed to the insurance company what is known as a "report" or ordinary bill of money due, as follows: "Room, board and nursing service (89 days at $8 per day)—$712; anesthesia (respiratory anesthetic)—$20; operating or delivery room—$20; laboratory—$25; medicines and intravenous solutions—$57.60; blood transfusions—$25; surgery—$75; surgical dressings—$15; penicillin—$4; glucose—$339; Alcodex—$5."

The insurance company failed to pay the bill within 30 days, and the hospital filed suit, asking the court to allow 12 percent extra on the $1,222.60 bill, and $500 attorney fees as provided by the above state law. The higher court refused to hold in favor of the hospital, because instead of "demanding" that the insurance company pay the bill, the hospital merely had mailed the company its usual "report" or bill of money due for services rendered to Aylor.

Therefore, the court refused to hold the insurance company liable for payment of $146.71, as a statutory penalty for failure to pay within 30 days after demand, and the sum of $500 as attorney fees.

The insurance company also refused to pay the charge of $25 for laboratory services, because of the $7.50 limitation of liability for such services in the policy. Furthermore, the company refused to pay the charges of $57.60 for medicines and intravenous solutions, $339 for glucose, and $5 for Alcodex, or a total of $401.60. The higher court held that the hospital could not collect these charges, saying:

"The policy specified certain items of expense with the limit of liability for such item . . . Nor can we agree that the item 'hypodermics,' which was described and defined in the policy as being an 'injection for the relief of pain,' can be interpreted to include glucose."

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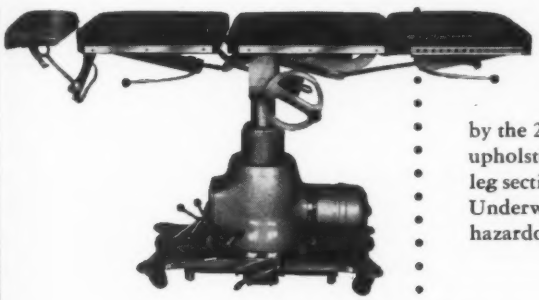

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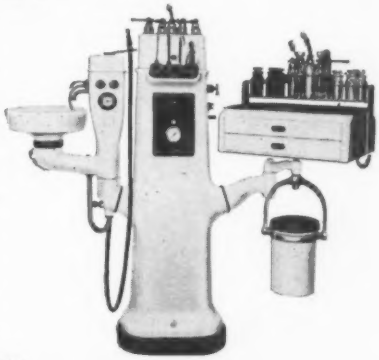

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HOSPITAL *Trends*

BY LOUIS BLOCK, Dr. P. H.

Hospital Personnel*

• Today's hospital represents a successful union of people, facilities, and money, joined together to accomplish one major objective—better patient care. Previous columns have discussed two component parts of this triad: facilities and dollars. The importance of the third element becomes even more significant when one recalls that hospitals are one of the largest service industries in the United States. Furthermore, statistics show that salaries and wages take up the largest slice of the hospital dollar.

But the situation is anything but static. The changing patterns of hospital and medical care practices, the constant growth in the number of hospital beds, the recent reduction in length of patient stay, and the resulting concentration of greater care in a shorter span of time are just a few of the trends which are necessarily reflected in personnel practices and employment statistics.

SPECIFIC CONSIDERATIONS

In addition to these broad factors which affect all hospitals, there are specific considerations that affect the number of people employed in any particular hospital. These include the number of hospital beds and bassinets, the utilization of the facility expressed in terms of patients, the hours of work, the size of the hospital plant, the hospital's plan or physical layout, the kinds of patients cared for and their degree or severity of illness, the prevailing medical practices, the hospital policy of patient care, the number and scheduling of surgical operations, the kinds and amounts of special services offered, the plan of segregation of patients, the training and experience of the personnel, and their stability and flexibility.

NUMBERS EMPLOYED

Today, hospitals have well over one and a quarter million full-time employees, an increase of almost half a million in the past nine years (829,571 in 1946 to 1,300,733 in 1955). This represents a 57 percent increase (see Table I).

The greatest number is found in general short-term hospitals. This is true both in 1946 and in 1955. The proportionate distribution of personnel among types of hospitals remained fairly constant in that period.

The greatest proportionate increase in personnel, 91 percent, occurred in mental and allied hospitals.

*Based upon data in Guide Issue, *Hospitals*, Journal of the AHA, Part II, August 1, 1956.

Table I
Numbers of Full-time Hospital Personnel
by Type of Hospital
1946 and 1955

	1946	1955
All hospitals	829,571	1,300,733
General short-term hospitals	504,961	825,650
Nonprofit	361,834	596,512
Proprietary	34,646	40,666
Government	108,481	188,472
General long-term hospitals	28,000	46,508
Mental and allied hospitals	98,831	188,291
Tuberculosis	35,854	48,001
Federal	161,925	192,283

PERSONNEL PER 100 PATIENTS

Changing medical practices and inclusion of newer and additional services require more personnel time per patient than formerly. In fact, 22 more people were required in 1955 than in 1946 to care for the same number of patients (see Table II).

Table II
Increase in Numbers of Full-time Employees
per 100 Patients
1946 and 1955

	1946	1955	Increase
All hospitals	73	95	22
General short-term hospitals	148	203	55
Nonprofit	156	210	54
Proprietary	137	182	45
Government	129	188	59
General long-term hospitals	45	71	26
Mental and allied hospitals	19	28	9
Tuberculosis hospitals	66	85	19
Federal hospitals	97	122	25

General short-term hospitals showed the greatest increase in numbers per 100 patients. The concentration of number of patients in these hospitals calls for more personnel. In 1946 it took 3½ times as many personnel to take care of the same number of patients in general short-term hospitals as in general long-term hospitals; eight

(Continued on next page)

times as many as in mental and allied hospitals; almost 2½ times as many as in tuberculosis hospitals; and 1½ times as many as in federal hospitals. By 1955, these proportions had been reduced to approximately 3, 7¼, 2⅘, and 1½ respectively.

CHART I
Percentage Distribution of Full-Time Employees
By Type of Hospital

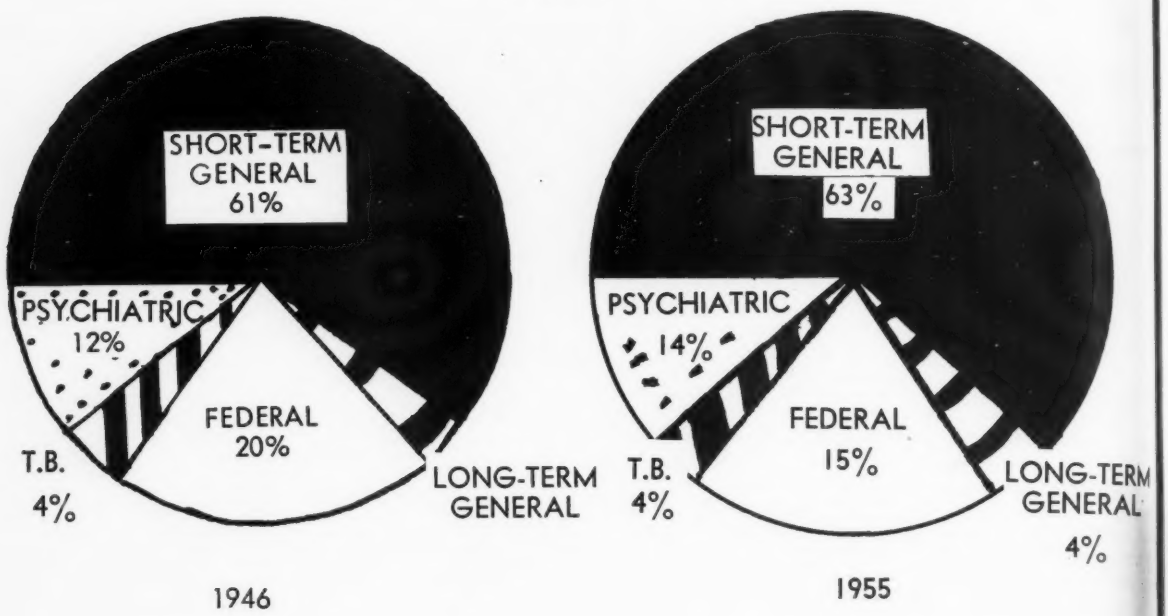
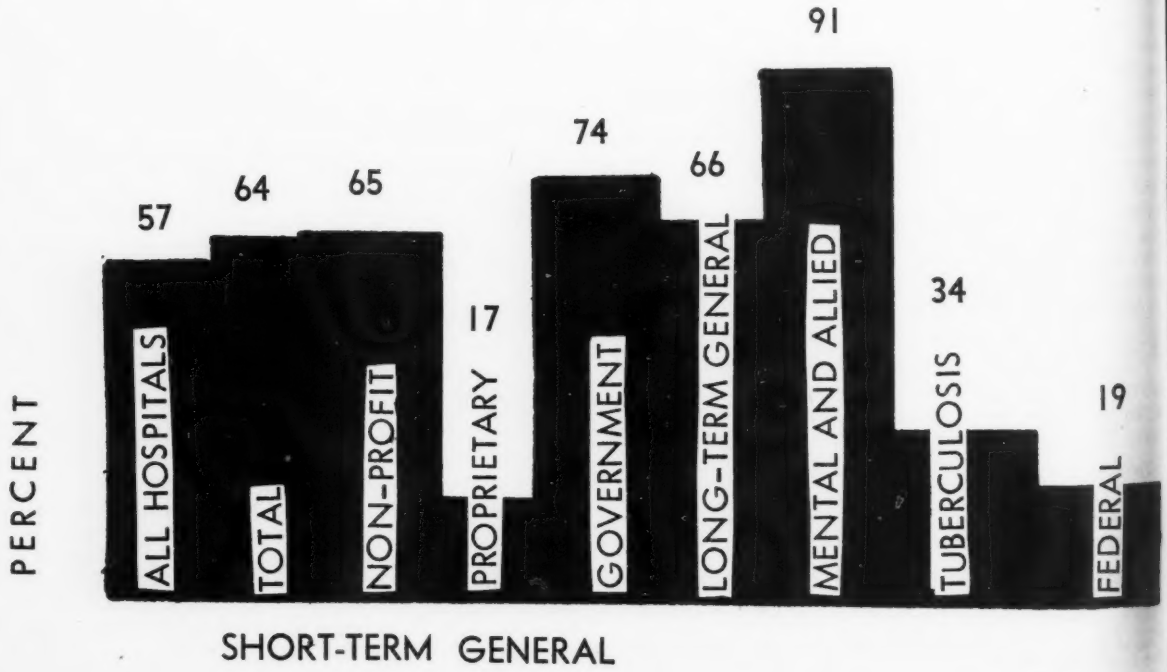


CHART II
Percentage Increase in Full-Time Employees
By Type of Hospital
1946-1955



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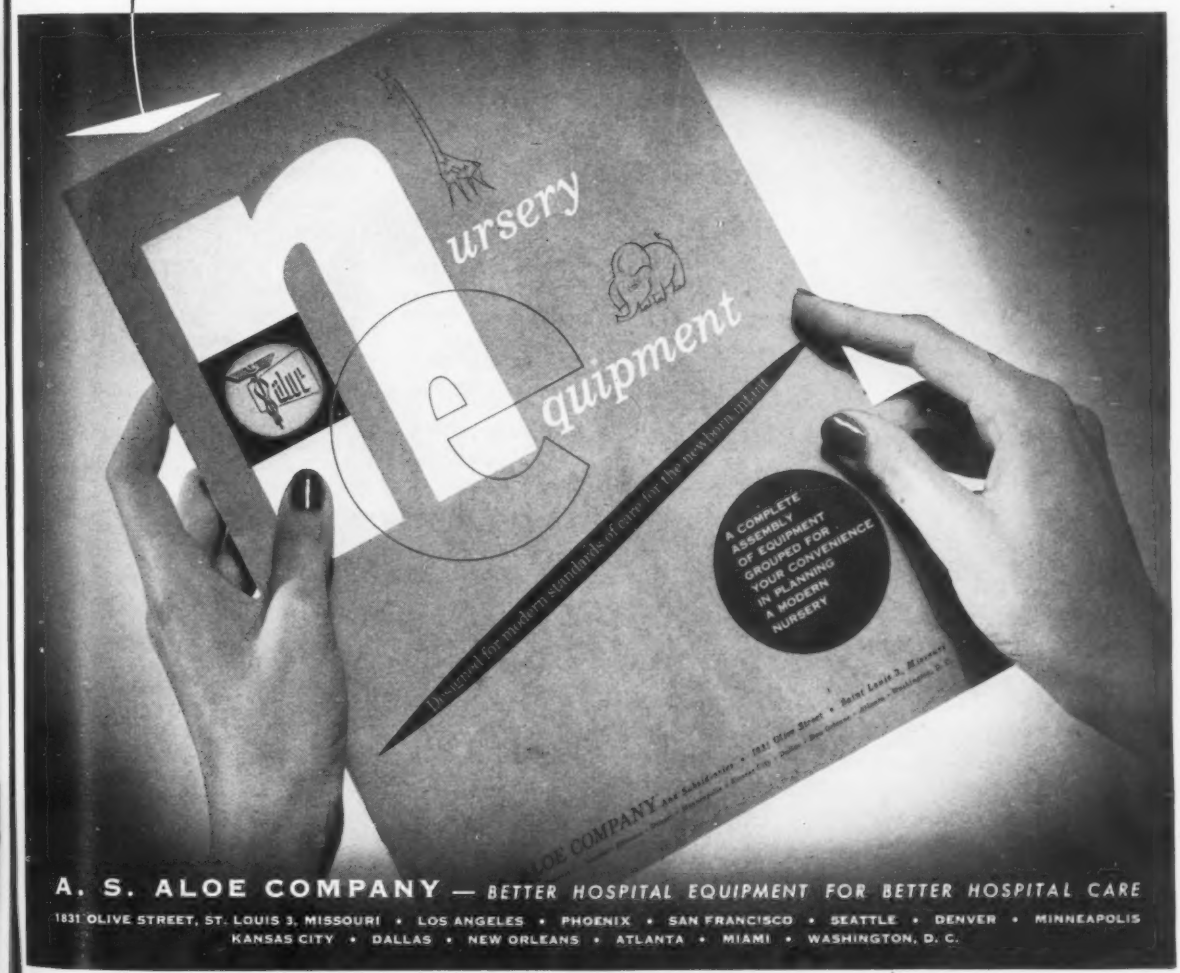
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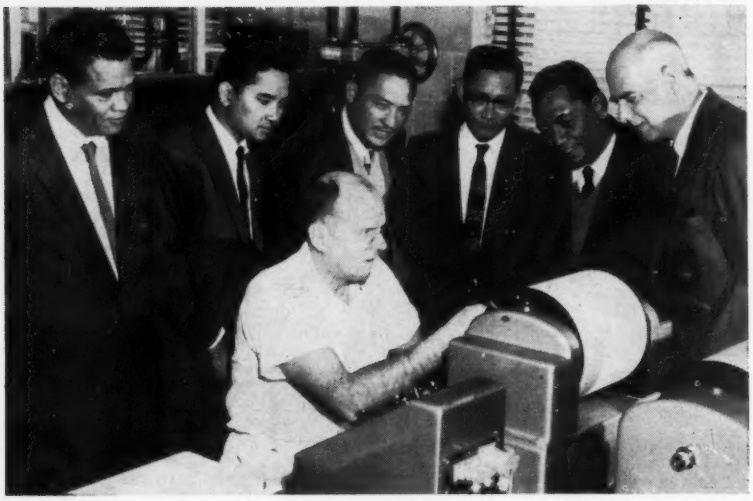
TRADE TOPICS . . .



Recent visitors to Abbott Laboratories were members of the drug and pharmaceuticals productivity team from the Philippine Islands, who are visiting the U. S. under the auspices of the International Cooperation Administration, studying production and research technics in major American drug companies. William Washburn (seated), member of Abbott's quality control department, demonstrates equipment in his lab to team members (l. to r.): Primo S. Arambulo Jr., Arambulo Products; Orlando C. Buan, Philippine American Drug Co.; team leader Isosceles S. Pascual, Pascual Laboratory; Dalmacio T. Suaco, A. T. Suaco & Co., Inc.; Jose A. Angeles, Lexal Laboratories; and Eduardo Pinol, Oceanic Commercial, Inc.

Gordon Armstrong Co. Elects Officers

New officers of The Gordon Armstrong Co., Inc., are Eve Armstrong, executive vice-president and secretary; Fred H. Herr, vice-president and assistant treasurer, and Jay Dorsak, vice-president, engineering.

Gordon Armstrong remains president and treasurer.

Dennison Co. Appoints Sales Representative

Dennison Mfg. Co. has announced the appointment of Homer Higgs Associates, Inc., as exclusive sales representative for Dennison Sterilwraps sold to the hospital trade.

In addition to handling the Dennison Sterilwrap line, Mr. Higgs will act as consultant to the firm's merchandising division.

Electronic Products Firm Opens New Plant

Levinthal Electronic Products, Inc. recently opened its new Stanford Industrial Park plant in Palo Alto, Calif.

Space in the new building is devoted to research, development, and manufacture of microwave radar and communication systems, medical electronic equipment, and scintillation crystals.

Fleet President Named Vice-Mayor

Charles G. Baber, president of C. B. Fleet Co., Inc., Lynchburg, Va., has been elected vice-mayor of Lynchburg for a two-year term.

Walter C. Alvarez (l.), former Mayo Clinic consultant in medicine, columnist, and editor of Modern Medicine, is presented to over 300 Johnson & Johnson executives by William H. Lycan, M.D., vice-president for research. Dr. Alvarez spoke on "The Health of Executives."

RCA Makes Color TV Camera for Medical Use

The Radio Corporation of America has started commercial production of the first compatible color television camera specifically designed for medical use.

The camera is expected to be widely used for origination of live closed-circuit or on-air colorcasts of surgical, medical, and educational instruction and demonstrations.

First units are going to Walter Reed Army Medical Center, Washington, D. C.; Smith, Kline and French Laboratories, Philadelphia, and the University of Michigan Medical School, Ann Arbor.

Wyeth Laboratories Names President

Herbert W. Blades has been elected president and chief executive officer, Wyeth Laboratories, Division of American Home Products Corp.

Formerly executive vice-president, he succeeds Harry S. Howard, now chairman.

Antibiotic Patent Granted To Chas. Pfizer & Co.

A patent on the new antibiotic, cycloserine, and a method for making it by fermentation technics has been granted to Chas. Pfizer & Co., Inc.

Cycloserine has been found effective in treating certain types of tuberculosis, certain chronic urinary tract infections, and a number of other diseases.

Ciba Receives Award For Arthritis Program

Ciba Pharmaceutical Products, Inc., recently received recognition from the Arthritis and Rheumatism Foundation for broadcasting the radio-televi-

tion program, "Arthritis, the Sly Crippler," written by Jay E. Raeben.

Raeben's script was presented on a "Medical Horizons" telecast direct from Buffalo (N. Y.) General Hospital, dealing with research studies and treatments developed by arthritis specialists in that institution.

Bristol Names Kearns Sales Manager

John E. Kearns, The Bristol Co., has been appointed manager of a new district sales office in San Francisco. He has been in the application engineering department at the home office, Waterbury, Conn.

News Briefs

Werner H. Von Rosenstiel—has been named advertising manager, The National Drug Co. He had held a similar position with Nepera Chemical Co.

* * *

Howard C. Young — is export manager, Nuclear-Chicago Corp., manufacturers of radioactivity measuring instruments.

* * *

William F. Pierce — formerly export manager, Barnstead Still & Demineralizer Co., has been named manager of Barnstead's new Cleveland office.

* * *

John Cini — has joined the staff of Grayson Equipment Co., Inc., as food service equipment engineer. He was formerly associated with Straus-Duparquet, Inc.

* * *

G. C. Bradshaw—has been appointed general purchasing agent, Mallinckrodt Chemical Works, succeeding the late **Erwin H. Doht**. Bradshaw was formerly director of sales research.

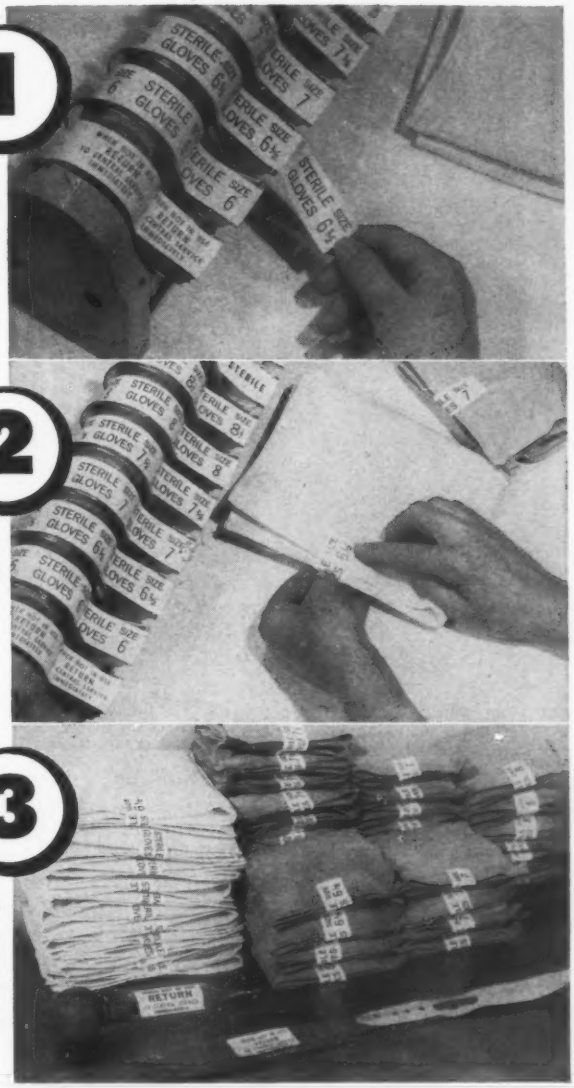
* * *

George P. Pilling & Son Co.—has established an office and display room at 4 W. 56th St., New York City. James P. Kelly is in charge.

* * *

Edward L. Mears — has been named manager, central services division, Dewey and Almy Chemical Co., Division of W. R. Grace & Co. Formerly manufacturing manager, container and chemical specialties division, he will be in charge of industrial relations, public relations, advertising, purchasing, and market research.

Central Service items labeled and sealed in 3 SECONDS!



Fast, self-sticking Time Labels give you standardized **safe** identification in every hospital department. No tongue-licking . . . no danger of infection. Will stick securely after **five** trips thru the Autoclave. Hundreds of standard labels or your own printed to order.

LET US PROVE IT . . See for yourself how you can increase speed and safety in your HOSPITAL DEPARTMENT

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Professional Tape Co., Inc. Box 41-K Riverside, Illinois

Now...A Really PORTABLE Aspirator

THE JUNIOR TOMPKINS

Weighs only 16½ lbs.

$99.50

Complete with Yankauer suction tube and utility wrench

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COMPARE THESE FEATURES

- Totally enclosed heavy duty motor... requires no lubrication... rubber mounted to insure quiet, vibrationless operation
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Perfectly balanced... easy to carry

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MORE THAN 20 YEARS' RESEARCH SUPPORTS

Mead Johnson's Threefold
FLUID THERAPY PROGRAM

A Complete Line for
FLUID BALANCE THERAPY

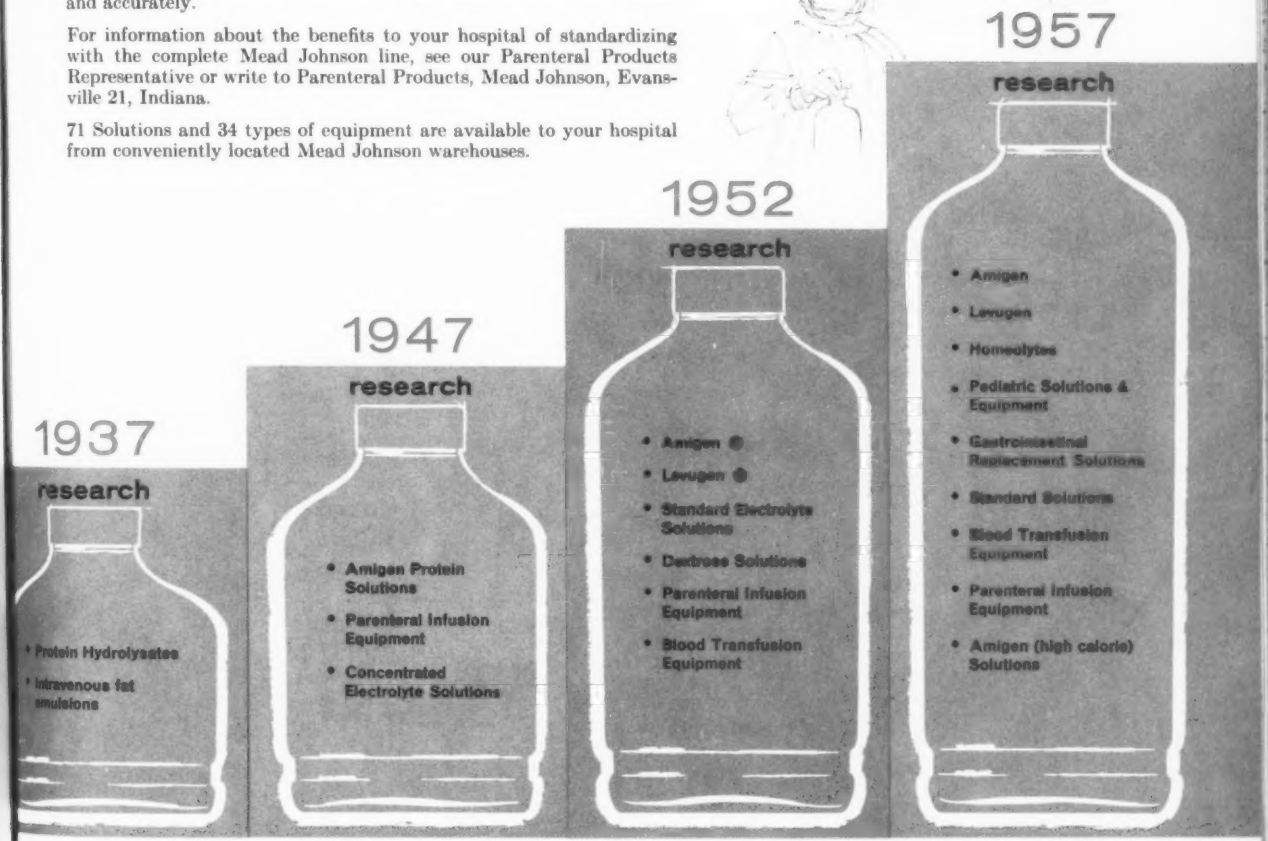
A complete line of parenteral solutions, equipment and unique, technical services have developed from sustained Mead Johnson research.

This versatile threefold program provides greater standardization, economy and efficiency for all hospital departments participating in fluid balance therapy.

In addition, a growing list of exclusive technical services make fluid therapy principles easier to understand and easier to carry out, safely and accurately.

For information about the benefits to your hospital of standardizing with the complete Mead Johnson line, see our Parenteral Products Representative or write to Parenteral Products, Mead Johnson, Evansville 21, Indiana.

71 Solutions and 34 types of equipment are available to your hospital from conveniently located Mead Johnson warehouses.



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Amiset®

Assures Constant Sterility of Intravenous Solutions

Disposable AMISETS assure maximal control of asepsis at all times during infusion. Unique safeguards provided *only* by AMISET feature

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—air bubble exclusion

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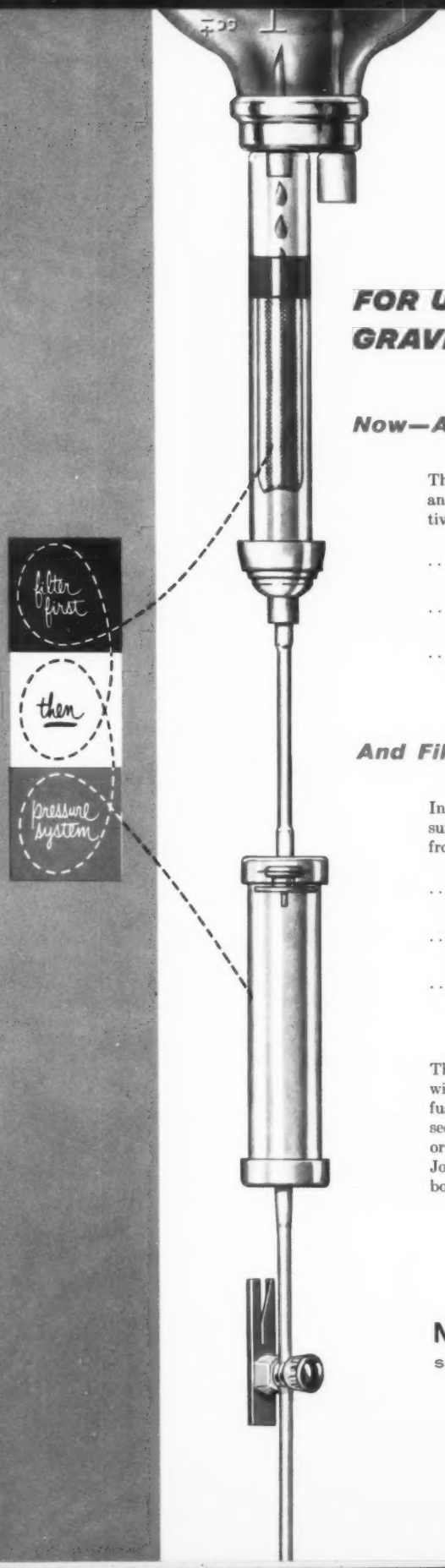


FOR UNIMPEDED FLOW... GRAVITY OR PRESSURE

Now—A Better Way To Filter Blood

The new Mead Johnson blood set *inverts*, and thus restores, the filter to a more effective, trouble-free position, so that:

. . . the filter chamber need not be full for the filter to operate

. . . head space for air prevents entry of air into the line

. . . clots and air bubbles cannot seal off the filter walls

And Filter First-Then-Pressure

In new Mead Johnson blood sets with pressure units the pressure cylinder is separate from and below the filter chamber so that:

. . . only filtered blood can enter the pressure chamber

. . . clots cannot be forced through the filter by pressure application

. . . return to gravity flow is instant and effortless

There is a Mead Johnson blood set, with or without a pressure unit, to meet any transfusion need. For more information, please see our Parenteral Products Representative or write to Parenteral Products, Mead Johnson, Evansville 21, Indiana for the booklet, "Transfusion Equipment."

MEAD JOHNSON

SYMBOL OF SERVICE IN MEDICINE

Introducing

A New Maximum Calorie Solution for more Complete Parenteral Feeding

Supplying daily...

- ... as much as 2400 calories
- ... 112.5 grams of protein
- ... all essential electrolytes
- ... without excess fluid

Patients seriously ill or in the immediate post-operative period usually maintain their weight or show only a slight loss or gain with the use of Amigen® High Calorie Solution. In marked contrast to the loss of weight and negative nitrogen balance observed with 5% or 10% carbohydrate solutions, Amigen High Calorie Solution provides effective nutritional support.

The proportions of Amigen, Levugen® and alcohol have been carefully established to permit a practical rate of administration: 1 drop per second or 1 liter in 3 hours. At this rate of administration thrombophlebitis has not been a problem.

All patients who cannot or will not achieve effective nutritional support by oral alimentation will benefit by Amigen High Calorie Solution.

MEAD JOHNSON

SYMBOL OF SERVICE IN MEDICINE

Hospital Accounting and Statistical Problems

By David H. Tarlow, C.P.A.

Senior Partner, D. H. Tarlow & Co.

Hospital Accountants and Auditors, New York City

Q. Is it necessary to have more than one cash receipts book for showing evidence of payment for services rendered, donations, and other cash collections?

A. It is suggested that one cash receipt book be maintained for the recording of collections received from, or for the account of, services rendered to patients and that another receipt book be kept for all other collections. We favor this system because it avoids the necessity of rewriting individual names, receipt numbers, and amounts in the cash receipts journal.

You can post the credit entries to the individual patient's ledger account cards directly from the duplicate cash receipt and make a summary entry in the cash receipts journal for the daily cash collections. This entry need only be summarized by the receipt numbers covered, i.e., receipt number.....to receipt number.....incl. All other receipts should be recorded in detail in the cash receipts journal for facility of analysis and audit.

* * * * *

Q. Our administrator has requested that we prepare a schedule of accounts payable as soon as possible at the close of each month. Can you recommend a quick way of ascertaining accounts payable before the formal closing of all books of account, and the preparation of all monthly financial statements?

A. We would recommend that you install a voucher or purchase register for the recording of all invoices. In addition to the expense analysis columns, leave one column open next to the total column and mark this "date paid." The adjoining column should be provided for the check number. As payments are made, you may then record in the voucher register the date paid and check number.

All open items therefore, reflect the balances of accounts payable. You will, of course, check the total of these outstanding details with the balance shown in the general ledger.

Since time seems to be of the essence in notifying your administrator of outstanding balances, this method should prove satisfactory. In addition to the total outstanding amount, you can also obtain an aging of accounts by this method.

* * * * *

Q. We are experiencing some difficulty in collecting from ambulatory patients for services rendered in the x-ray department and the laboratory. The patient is given a bill after such services are rendered in the department and is requested to call at the business office to pay. Many times patients walk out of the door with the bill and fail to send in payment.

We are contemplating the installation of a cash register in the x-ray department in the hope that this may help. What procedure is being followed by other hospitals?

A. There are several methods in use for the control of cash collections for services rendered to ambulatory patients:

(1) When the charges for services required can be established prior to the patient's calling at the hospital, he is requested to present a receipt for such payment or evidence that he has made satisfactory arrangement with the business office before the services are rendered in the special service department. The patient is advised by the physician requesting the service to call at the business office before going to the special service department.

(2) Where it is inconvenient, because of distance or the patient's physical disability, to travel between one department and another, collections are made in the outpatient department.

* * * * *

Q. In computing hospital occupancy, should all the beds available be used as 100 percent capacity, or should some other figure be used?

A. In computing percentage of occupancy we base our reports on beds available multiplied by the number of days in the particular fiscal period under review. We understand that many institutions may have wards or floors not in use to which no services are given. If this total were to be included in the percentage of occupancy computation, a distorted figure would result. For administrative guidance, we would show an explanatory footnote covering beds or wards excluded from the computation.

* * * * *

Q. We are experiencing some difficulty with controlling late charges. The resultant complaints from patients who have gone home with a bill marked paid and then are dunned for an x-ray charge, sometimes cause bad public relations between the hospital and the community. Do you have any suggestions for eliminating this condition?

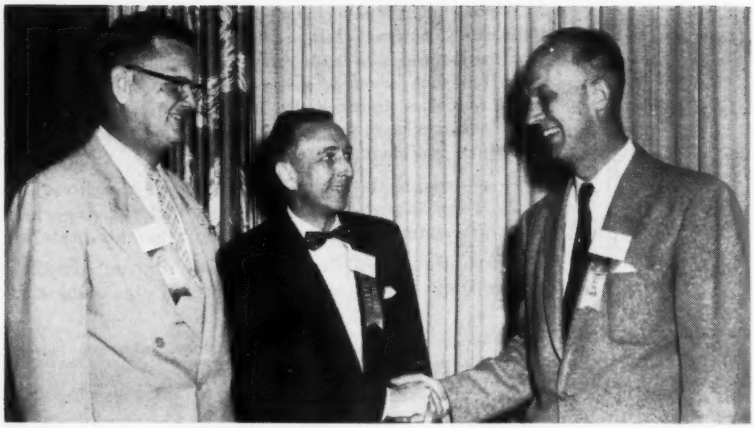
A. It is suggested that you set up the following routine:

(a) Have the charge nurse call the accounting office as soon as a patient is cleared for discharge by the attending physician.

(b) The cashier or accounts receivable clerk should then phone the x-ray department, laboratory, and pharmacy for any additional charges.

In larger hospitals, this problem has been largely eliminated through the usé of a pneumatic tube system. However, we can readily understand that in a hospital of 75 beds such a system would be too costly. Since you average about seven discharges a day, the time spent on the telephone should not be too great. If at all possible, we would also suggest that your administrator try to establish regular discharge hours.

Personally Speaking



New officers of the Florida Hospital Association are (l. to r.): Steve F. McCrimmon, director, Doctors' Hospital, Coral Gables, president-elect; Ben P. Wilson, superintendent, Munroe Memorial Hospital, Ocala, president, and Robert B. Eleazer Jr., assistant administrator, St. Luke's Hospital, Jacksonville, past president.

Ronald A. Burton—has been appointed administrative assistant and night administrator, University of Alabama Medical Center, Birmingham, Ala. He succeeds **Edward G. Hertfelder**, who was recently appointed director, outpatient and emergency clinic services.

Theodore F. Childs—has been elected president, Lenox Hill Hospital, New York City. He was formerly superintendent. **Louis Schenkweiler**, formerly administrator, is now vice-president.

Helen Conboy—is director of nurses, Oregon City (Ore.) Hospital. She formerly held a similar position at Tillamook (Ore.) County General Hospital.

Mrs. Roger A. Connolly—is now director of public relations, Hospital of St. Raphael, New Haven, Conn.

Mrs. Linnea Hokom Curtis—has become assistant executive secretary, Washington State Nurses Association. She was formerly staff nurse, Tacoma-Pierce County Health Department.

Harry Dowling—has been elected manager, Dodgeville (Wis.) General Hospital.

Gerhardt L. Dybdahl, M.D.—is now pathologist, Paradise Valley (Calif.) Sanitarium and Hospital. He was formerly associate professor of pathology, School of Medicine, The College of Medical Evangelists, Loma Linda, Calif.

Richard D. Edmonson—has been appointed administrator, Baker County Hospital, MacClenny, Fla. He was formerly assistant administrator, Alachua General Hospital, Gainesville, Fla.

Walter W. Ellis—is now administrator, Galloway Memorial Hospital, Anthony, Kan., succeeding **George Brotherton**, who has resigned. He was formerly a hospital consultant in Pennsylvania.

R. B. Fulcher — has been appointed administrator, Graham Hospital, Keokuk, Ia., succeeding **Mrs. Miriam Neff**, who has resigned. He was formerly administrator, D. M. Cogdell Memorial Hospital, Snyder, Tex.

G. Paul Hanson—has been appointed administrator, Charles B. Behrens Memorial Hospital, Glendale, Calif., succeeding **Corinne Roos**. He was formerly assistant administrator, Cedars of Lebanon Hospital, Los Angeles.

Lloyd L. Hughes—has been appointed superintendent, University of Wisconsin Hospitals, Madison, succeeding **Harold M. Coon, M.D.**, who resigned to become Milwaukee (Wis.) County hospital administrator.

John E. Huntsbarger—has been made controller, Western Pennsylvania Hospital, Pittsburgh.

Mrs. Nels Jensen—has been appointed administrator, Halloran Hospital, Jackson, Minn., succeeding **Mother M. Lucia** of the Sisters of Charity, who have turned over the hospital to the city of Jackson after two years of operation.

Granville Jones, M.D.—has been appointed superintendent, Arkansas State Hospital for Nervous Diseases, Little Rock, succeeding **E. H. Crawfis, M.D.** He was formerly superintendent, Eastern State Hospital, Williamsburg, Va.

Emma McCormick—has been named administrative dietician, Chambersburg (Pa.) Hospital. She formerly held a similar position at Pennsylvania State Tuberculosis Sanitorium No. 1, South Mountain, Pa.

Mrs. Virginia McGraw—has been appointed director of nurses, Tillamook (Ore.) County General Hospital, where she was formerly obstetrical supervisor.

Neil McGinniss—has been appointed director, Oakwood Hospital, Dearborn, Mich., succeeding **Jacques Cousin**, who has resigned to become executive director, newly organized Greater Detroit Area Hospital Council.

Robert W. Ogilvie, M.D.—has been appointed chief pathologist and director of laboratories, St. Luke's Hospital, St. Louis. He succeeds **L. S. N. Walsh, M.D.**, who is retiring as chief pathologist, but will continue as associate pathologist.

Charles S. Paxson Jr.—has been named administrator, Hahnemann Hospital, Philadelphia, succeeding **Madison B. Brown, M.D.**, director, administrative services, AHA. Mr. Paxson has been administrator, Delaware County Hospital, Drexel Hill, Pa.

Frederick J. Raisch, M.D.—has been named chief pathologist and director of laboratories, Aultman Hospital, Canton, O., succeeding **Donald G. Henderson, M.D.**

B. L. Ramsey—has been named business manager, Seminole Memorial Hospital, Sanford, Fla., succeeding **James Burton** who has resigned.

William E. Reid, M.D.—has been appointed administrator, Huey P. Long Charity Hospital, Pineville, La., succeeding **Roy O. Wright, M.D.** Dr. Reid was formerly superintendent, Confederate Memorial Medical Center, Shreveport, La.

William P. Ryan Jr. — has been appointed assistant administrator, Western Pennsylvania Hospital, Pittsburgh. He was formerly assistant administrator, Meriden (Conn.) Hospital.

Andrew W. Saphiloff—has become administrative services director, Central

State Hospital, Petersburg, Va. He was formerly administrator, John Graves Ford Memorial Hospital, Georgetown, Ky.

Sister Mary Antonia, R.N.—has been appointed administrator, St. Joseph's Hospital, Tacoma, Wash., succeeding **Sister M. Valeria.** Sister Antonia formerly was administrator, St. Joseph's Hospital, La Grande, Ore.

A. William Smith — has been named administrator, Mark E. Reed Memorial Hospital, McCleary, Wash., succeeding **Richard M. Davert,** who has resigned.

George M. Stockbridge — has been named administrator, Cape Fear Valley Hospital, Fayetteville, N. C. **M. E. Bullard** succeeds him as administrator, Wilkes General Hospital, North Wilkesboro, N. C. Mr. Bullard was formerly administrator, Pender Memorial Hospital, Burgaw, N. C.

Drexel Toland—has been named assistant administrator, Baptist Memorial Hospital, Memphis, Tenn. where he was formerly an administrative assistant.

Manford Ulrich—has been named administrator and business manager, Lindsborg (Kan.) Community Hospital.

Nicholas T. Verrastro—has been appointed administrator, Liberty-Loomis Hospital, Liberty, N. Y. He was formerly assistant administrator, Waterbury (Conn.) Hospital.

Robert E. Weimer, M.D.—has been appointed assistant superintendent, Mayview (Pa.) State Hospital.

Mrs. Majeane Werschkul — has been appointed assistant secretary, Oregon Association of Hospitals. She will assume many duties of former executive secretary, **Ralph W. Nelson,** who has become associate administrator, C. P. and H. Huntington Memorial Hospital, Pasadena, Calif.

Mrs. Bessie Brooks West — has been appointed Continuing Education Services Director, a newly created staff position of the American Dietetic Association. She was formerly head, department of institutional management, Kansas State College, Manhattan.

Charles E. Wiley, R.N. — has been named director of nursing, Aultman Hospital, Canton, O. He succeeds Estelle Collins who has resigned.

Richard Wittrup—has been appointed administrator, University of Kentucky's new hospital, now under construction in Lexington. He had been administrative assistant, University of Chicago clinics, and instructor in the hospital administration program.

Leslie H. Wright, M.D.—has been appointed acting superintendent, Kentucky State Hospital, Danville, succeeding **Richard S. Ahrens, M.D.,** who has retired. Dr. Wright was formerly chief medical officer and manager of several VA hospitals.

William Wyatt, M.D.—has been appointed Macon (Ga.) Hospital pathologist, succeeding **L. H. Campbell, M.D.**

VA Appointments

Lloyd B. Andrew, M.D. — has been named manager, VA hospital, Fayetteville, Ark. succeeding **Hursel C. Manaugh, M.D.,** who died November 24.

Succeeding Dr. Andrew at Birmingham (Ala.) VA Hospital will be **John S. Herring, M.D.,** now manager at VA Hospital, Montgomery, Ala. **Thomas L. Harvey, M.D.,** presently director of professional services at the Montgomery hospital, is new manager.

Alfred T. Hume, M.D.—has been appointed manager, VA Hospital, Outwood, Ky. He was formerly director, professional services, VA Center, Temple, Tex. Dr. Hume succeeds **Otis N. Shelton, M.D.,** who will be transferred to VA Hospital, Kerrville, Tex., as manager.

Leon Ross, M.D.—has been appointed manager, VA Hospital, Brecksville, O. He succeeds **Willard L. Quennell, M.D.** who has transferred to the VA regional office, Detroit, Mich. Dr. Ross was formerly director of professional services, VA Hospital, Cleveland, O.

VA Nursing Appointments

Joseph Cambardella—is assistant chief, nursing education, Wilkes-Barre (Pa.) VA Hospital. He was formerly acting assistant chief.

Sarah Fraunfelder—is assistant chief, nursing education, VA Hospital, Coral Gables, Fla. where she was formerly an instructor.

Marie Haurberg — is chief, nursing service, VA Research Hospital, Chicago. She was formerly chief, area nursing service, office of area medical director, Atlanta, Ga.

Robert Mahoney—has been appointed assistant chief, nursing education, VA Hospital, Rutland Heights, Mass. where he was formerly acting assistant chief.

Anne Moloney — is assistant chief, nursing education, VA Hospital, West Haven, Conn. Previously she held a similar post at Ann Arbor, Mich.

Remi Trudeau—is chief, nursing unit, VA regional office, New York City. As a member, World Health Organization, he has served as public health nursing adviser to the Government of Syria.

Dorothy Wells — is assistant chief, nursing education, VA Hospital, Oteen, N. C. She was formerly acting assistant chief.

Mildred Wieden — is chief, nursing unit, VA regional office, Montgomery,

(Continued on page 67)

CLASSIFIED

SHAY MEDICAL AGENCY

Blanche L. Shay, Director

Pittsfield Bldg., 55 E. Washington St.

Chicago 2, Illinois

POSITIONS OPEN

ADMINISTRATIVE PERSONNEL: (a) Administrative assistant. Woman. Supervise institutional services. $400-$600. (b) Assistant director. Large hospital in the East. College degree preferably in business administration. To $8,000. (c) Business Manager. Calif. 200-bed hospital. $525 minimum. (d) Personnel Director. Calif. Large hospital. College degree required. To $6,000. (e) Personnel Director. Woman. East. 250-bed hospital. Some public relations experience helpful. (f) Business Manager. Florida. 50-bed hospital. Good accounting training. $500. (g) Personnel Director. Middle West. 350-bed hospital. Required experience as assistant personnel director in either hospital or industry. (h) Personnel Relations Officer. Southwest. 350-bed hospital affiliated with University. 650 employees. (i) Comptroller. East. 125-bed hospital affiliated with University. Excellent opportunity. $5,000 minimum.

DIRECTORS OF NURSES: (a) East. 400-bed hospital. $7,000-$10,000 plus beautifully furnished apartment. Television, etc. (b) Middle West. 150-bed hospital. No nursing school. Degree not required. Excellent personnel policies. $6,000 plus attractive apartment. (c) Middle West. 175-bed hospital fully approved. Have very progressive school of nursing which has recently instituted a 3-year academic program. To $7,500 plus full maintenance. (d) Superintendent of Nurses. Calif. 200-bed hospital. Require good supervisory experience. $5,400.

NURSE-ADMINISTRATORS: (a) Middle West. Home for Aged. 125 beds expanding to about 200 beds. Graduate nurse with administrative experience would qualify. $400 p'us complete maintenance. (b) Southwest. Complete management of 40-bed hospital.

CLINICAL CHEMIST: East. 425-bed hospital which has just completed a new pathological laboratory. Excellent opportunity. $7,000-$10,000.

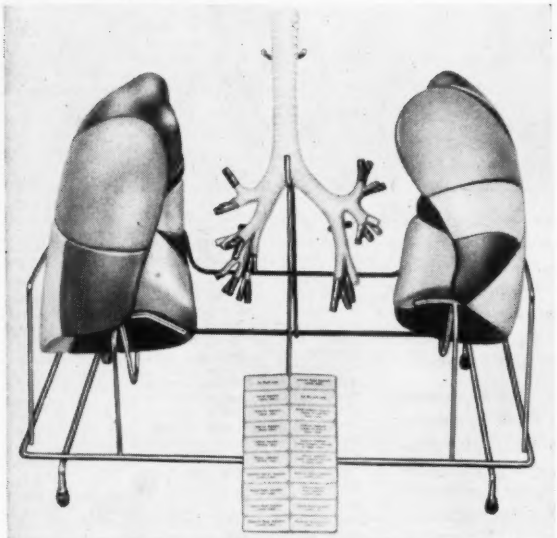
SOCIAL SERVICE: (a) Consultant. Prepare policies and standards for public health medical social work program. $6,000. (b) Psychiatric. East. Large institution. Will be in complete charge of department. $6,000 minimum. (c) Psychiatric. Middle West. Medical health center; two psychiatrists, one psychologist, two stenographers in dept. $5,400 minimum. (d) East. 200-bed general hospital. Experience not required. Prefer degree in medical social work or major sociology or psychology. $3,600 minimum. (e) East. 300-bed general hospital. This is a position of more than average interest. Salary is open but they will go to any reasonable lengths to secure a qualified person. (f) East. Director of Social Service Dept. Man or woman. 600-bed general hospital. Want someone who can organize department. Good future.

BUYER'S GUIDE

Barbara Work
Buyer's Guide Editor

For further information on any of the products, please check the Buyer's Guide number on the reply card on page 59.

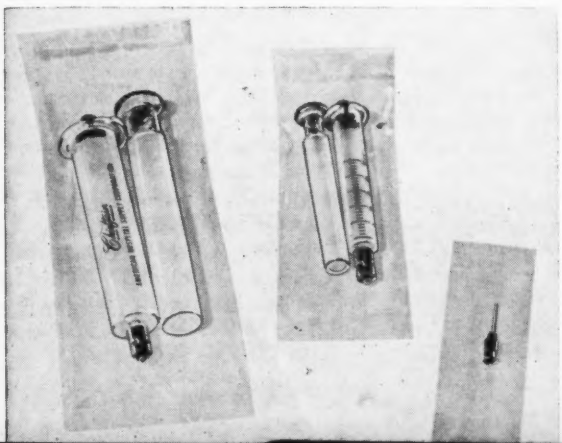
800. Lung model



Huber detachable plastic lung model, designed by John Franklin Huber, M.D., professor of anatomy, and Chevalier L. Jackson, M.D., professor of laryngology and bronchoesophagology, Temple University School of Medicine, Philadelphia, has wide applications in diagnosis, surgery, and teaching. Separable into the 18 principal bronchopulmonary segments, it has a complete tracheobronchial tree. Each bronchopulmonary segment is colored to match corresponding bronchus. Plastic sockets and metal ball connectors permit compact joining. Terminology is based on relative positions of segments within the lobes. Names are printed on pressure-sensitive labels which may be attached directly to the individual segments. Clay-Adams, Inc.

801. Cellophane envelopes

Tomac cellophane envelopes make contents visible at a glance. Self-seal closure seals instantly without moisture.

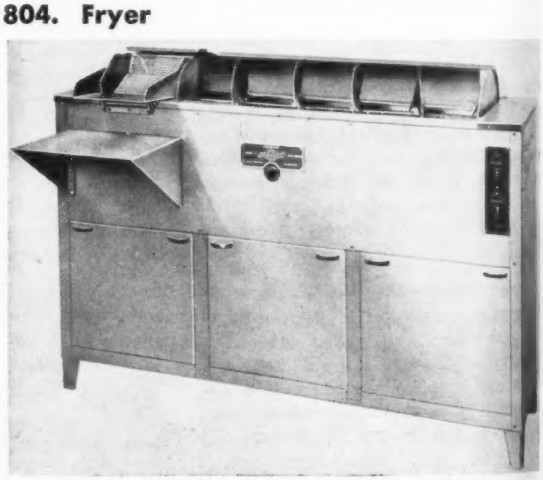


Available in sizes for syringes and needles. American Hospital Supply Corp.

803. Non-adhering dressing

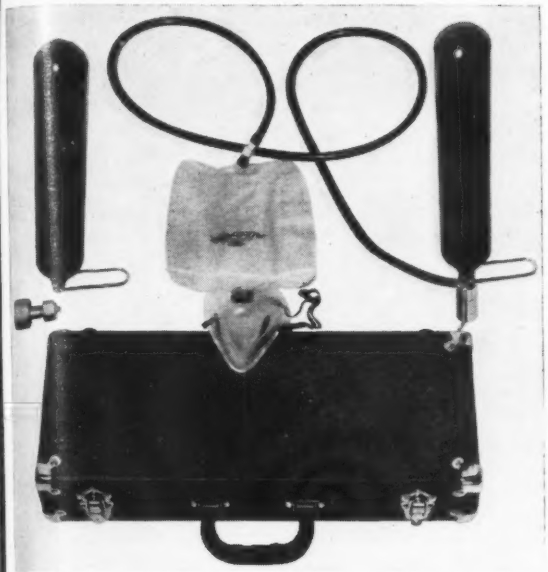
Adaptic non-adhering dressing is effective on any type of surgical lesion, according to manufacturer. Each dressing is individually packaged sterile. Of woven viscose filaments, dressing is impregnated with bland oil in water emulsion, allowing pores of fabric to remain 100 percent open. Sidewise stretch allows conforming to all contours without wrinkling. Johnson & Johnson.

804. Fryer



Food to be cooked is fed into one end of Unifryer, automatically passes through heated fat, and is discharged from other end, completely cooked. Cooking time is regulated by varying the distance food travels through fryer. Advantages of continuous deep frying method, says manufacturer, include quick searing action, high temperature control, higher productivity, and saving of fat and labor. Gifford-Wood Co.

805. Oxygen therapy kit



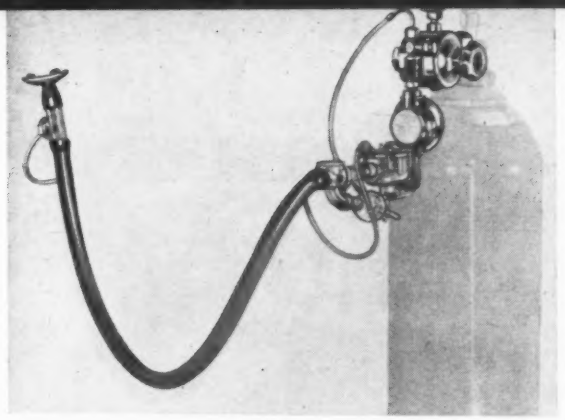
Portable oxygen therapy kit is for emergency use by cardiacs, asthmatics, doctors, etc. Weighing 9 lbs., EmergenOx is no larger than a briefcase. Contains two ICC approved cylinders with total of 112 liters of oxygen, UL-approved regulator, permanent or disposable non-rebreathing mask, special filling adaptor, permitting easy refilling from larger tanks by pressure equalization. Administers up to 25 minutes of oxygen. O.E.M. Corp.

806. Medical audit forms

Comprehensive forms aid in achieving and maintaining complete medical audit for evaluation of professional performance of hospital, and work of medical staff members as individuals. Series include B-701, *Survey of Operative Mortality;* B-702, *Survey of Morbidity Case;* B-703, *Evaluation of Mortality Case;* C-501, *Medical Audit Work Sheet;* C-252, *Medical Audit Findings;* C-253, *Surgeons' Index;* D-1121, *Wound Complication Report;* O-614, *Notice of Suspected Infection,* and B-704, *Surgery Control Card.* Physicians' Record Co.

807. Ambulance

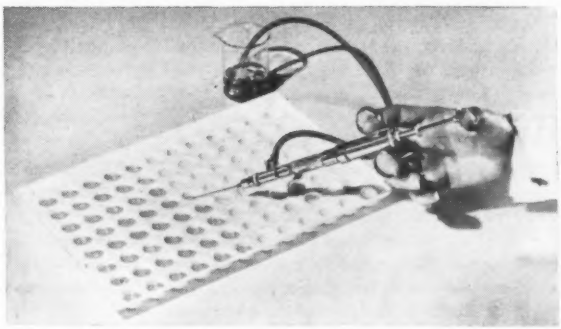
1957 line of Superior ambulances and rescue cars have been redesigned and restyled. Lower, longer, and wider, they still retain low loading height, generous work space, and ample room for accessory equipment and supplies. Electric "Safe-T-Locks" insure positive closure of all rear doors, with a telltale light on dashboard. Large red reflector is located on inside of rear door for safety in night loading. Superior Coach Corp.



808. Deep breather

Ohio-Dotco deep breather is both compact and simplified. Mouthpiece pressure is set and sealed by technician, preventing altering of treatment by unauthorized personnel. Breathing assistance is effortless or automatic, as indicated by patient's needs, without reducing cardiac output or tiring patient. Features include delivery of high aerosol concentrations, no interference with patient's breathing, and a durable, easily-serviced breathing valve. Ohio Chemical & Surgical Equipment Co.

809. DiSPo-tray



Designed for use wherever many test tubes or culture tubes are used, diSPo-tray is especially suited for assaying poliomyelitis neutralizing antibody. Made of styrene or vinyl plastic, each tray contains 96 cups. Trays may be stacked in incubator. Over-all size is 12" x 8". Scientific Products Division, American Hospital Supply Corp.

BUYER'S GUIDE

Continued

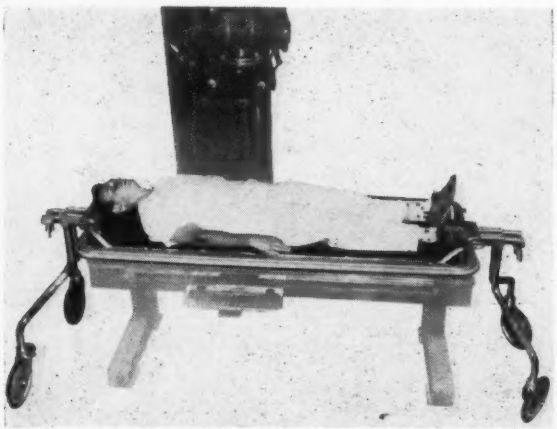
810. Reagent strips

New package size of "Clinistix" Reagent Strips packages 60 individual strips in a bottle. "Clinistix" provides complete specificity and extreme sensitivity in qualitative determinations of urine for glucose, according to manufacturer. Ames Co., Inc.

811. Ironer covers

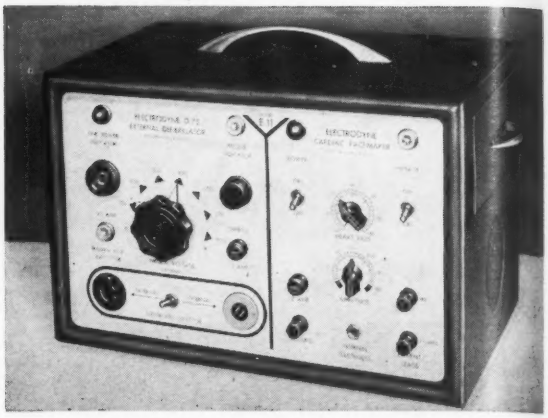
Revolite roll covers come in sizes for all chest-type flatwork ironers in widths of 100", 110", and 120". Other types are made to order. Made of a flexible, highly resilient sheet of asbestos fabric, they are coated with a smooth, durable synthetic resin. Coating is flexible and resistant to both heat and water, says manufacturer. Revolite Division, Raybestos-Manhattan, Inc.

812. Stretcher



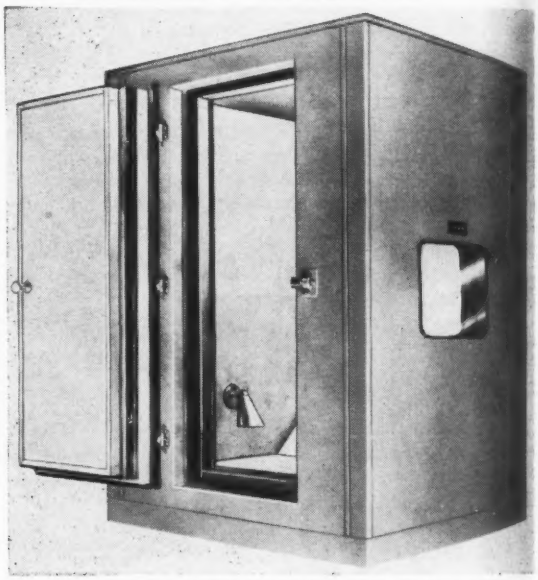
Transaver stretcher provides means of transporting accident victim from scene of mishap through all hospital procedures without moving him off stretcher. Unit consists of magnesium stretcher and straddler cart with easily adjustable legs that allow cart to fit snugly over x-ray table. Stretcher top is x-ray-transparent. Foam rubber stretcher pad is covered with washable, electrically conductive rubberized fabric, also x-ray-transparent. American Hospital Supply Corp.

813. Electrodyne



Electrodyne E-11 provides detection and treatment of both cardiac arrest and ventricular fibrillation. Instrument is combination of Electrodyne D-72 External Defibrillator, for clinical treatment of ventricular fibrillation and persistant ventricular tachycardia through unopened chest, and Electrodyne Cardiac Pacemaker, which provides external electric stimulation to heart in cardiac asystole due to anesthesia, Stokes-Adams disease, or other cause. Electrodyne Co.

814. Audiometric testing room



Uses of new Series "1200" Audiometric Testing Room include psychogalvanometry, neurological research, all types of audiometric testing, and research of heart sounds and auscultation. Rooms are prefabricated, easily assembled and dismantled. Can be designed to meet individual needs. "Noise-Lock" ventilation silencers change air each time doors are closed. Industrial Acoustics Co., Inc.

815. Mattress cover

Contour-type plastic cover, designed to slip quickly over mattress and keep it hygienically clean, is made from nonallergenic, fire-resistant plastic which is 100 percent waterproof and sanitary, according to manufacturer. "Dura-Weld" cover is guaranteed boilable, and all seams are electronically welded. Bechik Products, Inc.

816. Deodorant compound

New type odorless deodorant compound, PDC, prevents formation of unpleasant odors in organic waste products. Used in toilet bowls and urinals, it acts as a fixative to organic waste matter. Is nontoxic, nonirritating, and safe for continuous use, according to manufacturer. Will not corrode aluminum, steel, iron, or vitreous china; equally effective in both hard and soft water. A. J. Parker Co.

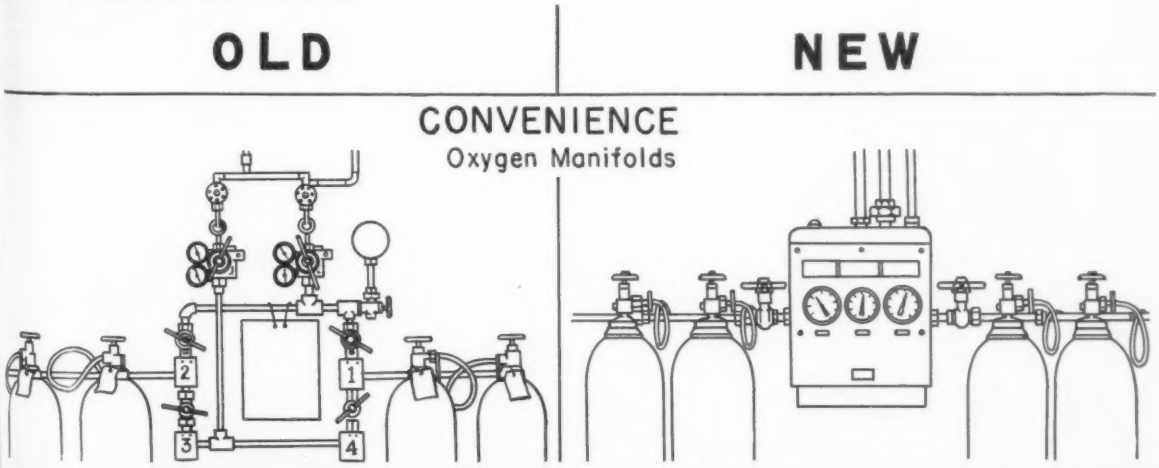
817. Draping sheet

Disposable draping sheet is soft, nonrattling, and completely opaque. Costs no more than laundering a cotton sheet. Size is 40″ x 48″, individually folded. Hospital Products Division, Robert Busse & Co.

818. Food cart

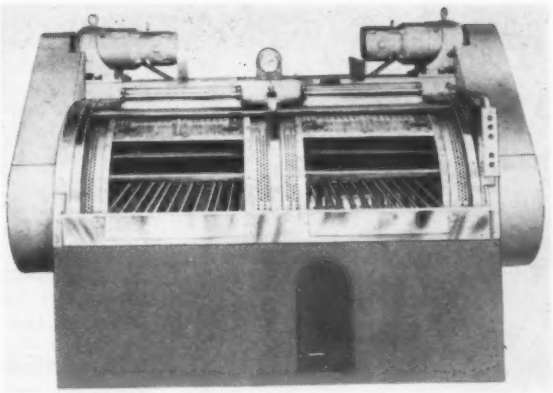
Robert Hope (r.), food manager, Monmouth Memorial Hospital, Long Branch, N. J., explains food cart he designed to George J. Bartel, administrator. New food conveyor is capable of handling hot food for 54 trays, yet is smaller and easier to handle than 32-tray conveyor. Hot food is centralized and is maintained at an even temperature until served. S. Blickman, Inc.

819. Manifold control unit



New manifold control unit for piped oxygen (or nitrous oxide) systems in hospitals is completely automatic. Unit shifts from supply bank to reserve bank of cylinders automatically. No resetting is required. Unit's warning lights tell which bank is empty and allow ample time to make the change. Automatic controls are completely enclosed, with no outside levers which can be accidentally actuated. National Cylinder Gas Co.

820. Unloading washer



Quik-Cut open-type unloading washer is designed to deliver many extra loads per day, according to manufacturer. "Pocket" design permits work to drop maximum distance during washing operation. Removable lightweight horizontal unloading partitions reduce operator effort and fatigue, eliminating stretching to reach work at bottom of machine, and lifting of work. Super Laundry Machinery Co.

821. Tincture

TincZoin, a Benzoin compound tincture, is used to improve adhesive properties of tape, to "toughen" skin, as a local application for fissures, cracked nipples, indolent ulcers, and fever blisters, and to prevent blisters, bedsores, and possible infection. Aerosol form avoids messiness of swabs, is easy to apply. Taylor Laboratories, Inc.

822. Needle support

Problems of hematoma formation, changing flow angles, and needles pulling out during infusions are reduced, says manufacturer, when IV sets are anchored with InfuSupport, a tape appliance. Needle and tubing are held firmly in position by precision-cut collar mounted on strip of surgical tape. Collar and three pre-cut accessory strips are mounted on pocket-size dispensing card. Medical Products Division, W. H. Brady Co.

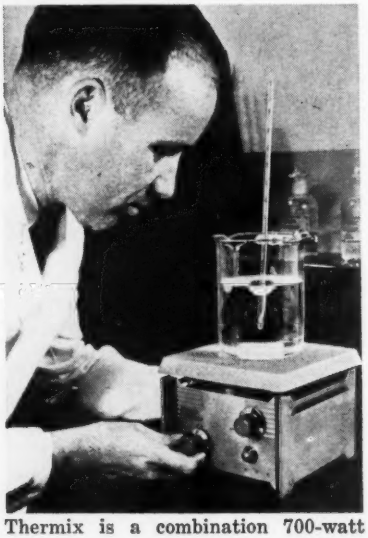
BUYER'S GUIDE

Continued

823. Patient radio

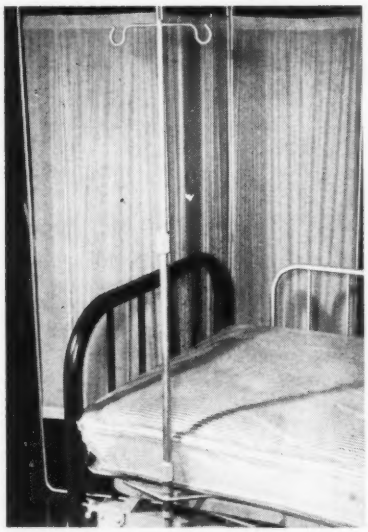
Each patient selects own radio programs and receives broadcast from comfortable plastic ear plug which works on principle of hearing aid. Operates on two batteries, with 41½" cord connecting radio to ear plug. Case is light gray, 5¾" long x 3½" high x 1¼" deep. Plastic carrying case has convenient handle, and loop for fastening to belt. American Hospital Supply Corp.

824. Heater-stirrer



Thermix is a combination 700-watt heater and magnetic stirrer. Advantages of magnetic stirring (vacuum and controlled-atmosphere systems, gentle agitation without splash, reaction flasks free from propeller shafts) are increased when stirrer is coupled with hot-plate. Copper-jacketed heating elements are cast directly into aluminum top plate, providing a faster heat transfer to beakers than with strapped-on heaters. Hot-plate and stirrer can operate independently or simultaneously. Fisher Scientific.

825. Infusion standard

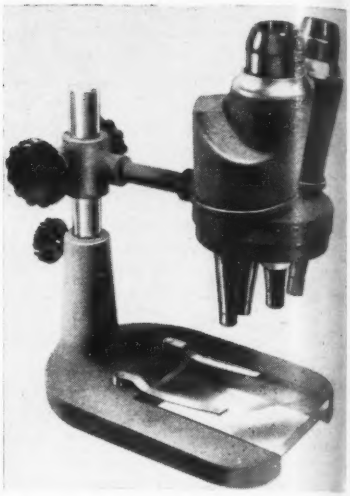


Slide-under infusion standard has double telescoping tubes constructed of heavy, high-strength aluminum alloy, electrolytically anodized for everlasting finish. Positive locking device tightens at twist of wrist and stays tight. Adjustable from 2" above mattress or stretcher pad to 56" above it. Chrome-plated slide-under bracket is 18" long x 12" wide. General Medical Equipment Corp., Division of Lumex, Inc.

826. Storage tube

Memotron is a direct-display storage tube with the ability to capture and retain transients on its 5" screen. Traces remain visible at high brilliance indefinitely, until intentionally erased. Applications include electrocardiography and vectorcardiography. Oscillographs using Memotron direct display storage tube retain transients visually, permitting examination at leisure without resorting to photography. If permanent record is desired, stored information can be photographed with only one exposure. Hughes Products, Division of the Hughes Aircraft Co.

827. Stereo microscope



Stereo microscope provides up to 8" working distance, giving an erect, clear, sharp image, correct as to left and right. Wide, three-dimensional field is seen with excellent depth perception. Two sets of objectives on a rotating turret. Standard pair of wide field 8X Kellner Eyepieces give 21 and 34 power. Additional eyepieces available for greater or lesser magnification. Interpupillary distance is adjustable. Edmund Scientific Co.

828. Deodorant

Nontoxic Chieftain deodorant completely banishes all unpleasant odors in operating rooms, rest rooms and kitchen, including ether and burn odors, says manufacturer. Will not injure laboratory cultures. One drop in bedpan or urinal before use eliminates unpleasant odor. One-oz. bottle will last from 30 to 60 days. American Hospital Supply Corp.

829. Door mountings

Recently announced is a special mounting for Rubbair® Door installations 6′ and wider. Critical stress points on wide installations are now constructed with 11-gauge steel offset mounts with an extra ⅛″ layer of rubber casting. Previously, construction was made with flat steel mounts without this extra protection. Rubbair® Door Division, Stic-Klip Mfg. Co., Inc.

830. Coordinated outfit

Sweater and dress are coordinated in outfit for women who work in white. Tricot dress is short-sleeved with lace trimming down front placket and across pocket. Trim is repeated along both front edges of Tycora sweater. Tycora yarn, by Textured Yarn Co., retains permanent whiteness, says manufacturer; is soft and easily washed, resists pilling. Sweater in sizes 34-40, dress in sizes 8-18 and 7-15. Uniformly Yours.

831. Emergency lighting

Centralized emergency lighting system (right) is electrically supervised to report any disarrangement of system at instant it occurs. Control console and distribution panel are located in room away from danger of fire or flooding. Emergency lighting fixtures are placed at strategic locations. Emergency lights go on instantaneously when regular power fails, go off when power is restored, and battery is automatically recharged. The 32-volt nickel cadmium battery is good for 25 years or more. The Standard Electric Time Co.

832. Soapless cleanser

Tersaseptic is a soapless cleanser containing a blend of anionic detergents and emollients with hexachlorophene 2%. Small amount makes profuse suds which provide effective cleansing action. Doak Pharmacal Co., Inc.

833. Bedside bag

Stik-Bag for bedside waste disposal has no cumbersome wire frame holders, eliminates pinhole damage to sheets. To apply, protective white paper is peeled off from tab. Stik-Bag adheres firmly to wood, glass, metal, etc., can be tabbed to bed, cabinet, wall, bassinet stand, etc. Peels off easily without marring surface. Institutional Products Corp.

834. Pager

Doctors at St. Thomas's Hospital, London, receive calls on a pocket-sized receiver. No wires are attached to it, as it works by magnetic induc-

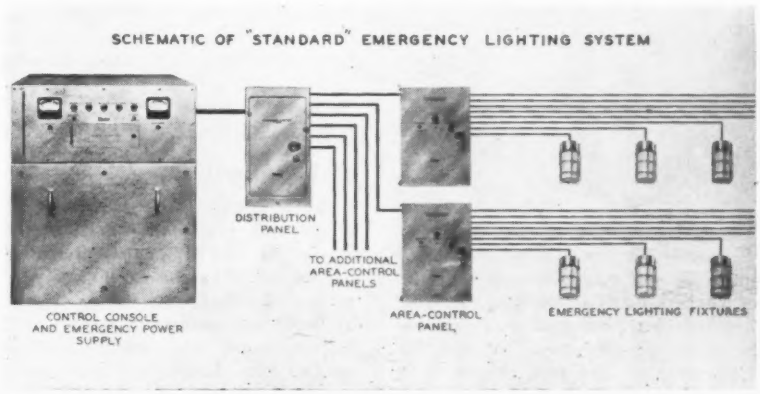
tion from audio frequency currents passing along wire surrounding hospital building. Hospital's chief technician, Peter Stiles, developed it in conjunction with Multitone Electric Co. Multitone Electric Co.

835. Fabric blinds

"Living room look" is achieved through colorful and therapeutic use of fabric vertical blinds. Louver-Drapes provide quiet, practical, directional control of light, air, and privacy, as shown above in Mission Bay Hospital, Los Angeles. Of fadeproof DuPont fabric, louvers are regulated by simple hand control at window. Louvers may be closed tightly, swiveled open to any desired angle in a 180° radius, or drawn open and shut like traverse draperies. Vertical Blinds Corp. of America.

836. Intertrochanteric appliance

A stronger fixation appliance for the hip is now available in the Model V McLaughlin-type Vitallium adjustable intertrochanteric appliance. Design improvements incorporate a new four-flanged nail, new locking collar, and new plate section. Adjustable angularity is from 114° to 150° in 6° steps. Over 25 percent stronger than previous model. Positive locking of the elements is assured with an elastic stop nut. Completely inert Vitallium, noncorrosive and compatible within the human body. Austenal Laboratories, Inc.



BUYER'S GUIDE

Continued

837. Invalid walker

Tomac folding invalid walker provides excellent support for patients who need ambulation assistance. Folds to just 3" width for storage. Patient can adjust width up to 27½", and height on any of three levels. Wire utility basket hooks on side of walker to hold patient's personal items. Rehabilitation Products, Division of American Hospital Supply Corp.

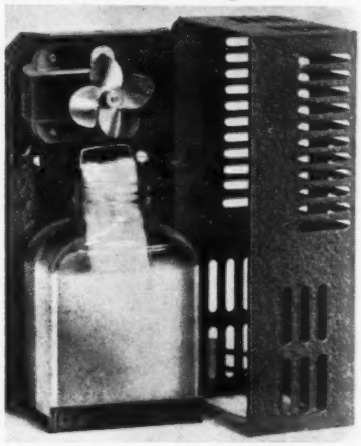
838. Soap dispenser

The Bobrick 25, stainless steel soap dispenser for liquid soap, was subjected to the equivalent of 43 years of use before any repair was required. Requires less custodial servicing because all possible space is used for soap capacity—one pint, two oz., a 50 percent larger capacity than other dispensers of this type. Liquid level indicator slots in stainless steel exterior provide an always-visible soap supply. Special adhesive available for mounting on hard surface walls. Bobrick Dispensers, Inc.

839. Felt point pen

Marsh 77 Felt Point Pen can be used for marking on plastic, wood, stone, glass, paper, metal and cloth. According to manufacturer, it marks blacker than a crayon. Guaranteed not to leak. Ink (available in 10 colors) dries instantly on porous surfaces, in 30 seconds on non-porous surfaces. Is removed from cloth by dry-cleaning. Felt-Point Pen Division, Marsh Stencil Machine Co.

840. Deodorizing machine



Visco electric room deodorizing machine destroys unpleasant odors in room of any size. Unit containing reusable 15-oz. bottle of liquid deodorant is plugged into any 110-volt AC outlet, and small fan blows across wick. Deodorizing liquids are available in three formulas, including one for medicinal and organic odors caused by diseases such as cancer. Bottle lasts 15 to 60 days. Jay-Rudy Mfg. Co.

841. Sterilizing racks

Sterilizing racks for autoclaving are of heavy-gauge stainless steel wire. Projecting feet prevent slipping. Rack for needle wraps holds 45 needles in wraps. Another rack holds 14 5cc. syringes and needles in wraps, or 28 2cc. syringes and needles, or 84 needles only. Instrument rack has 10 sections, holds all sizes of forceps in wraps. Fourth rack also has 10 sections, each holding one 10cc. or 20cc. syringe in wrap. A. S. Aloe Co.

842. Lotion

Medicated Silicare lotion is highly effective in healing, soothing, and protecting against skin irritations. Protective film lasts as long as five ordinary hand washings. Hexachlorophene helps prevent secondary infection in dermatitis, scratches, minor cuts, and abrasions. Same ingredients are specially formulated in Baby Silicare to combat and treat diaper rash, saliva eczema, heat rash, and mild face rashes. Revlon, Inc.

843. Floor machine

New silent floor machine, Model 20-D, has brush diameter of 20" for maintenance of large floor areas which require daily attention. Equipped with 50' of cable, one scrub brush, one polishing brush. Incorporates Micro switch, which may be operated by either hand. Has 1 hp motor and operates at 110-220 volts, 60 cycles AC. Polishes, scrubs, sands, seals, steel wools, and shampoos floors, all silently. Optional equipment includes adjustable handle, steel wire brush, steel wool donuts, as well as additional scrub and polish brushes. Huntington Laboratories, Inc.

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873A. Ohio Chemical & Surgical Equipment Co., Catalog No. 2151
874A. West Disinfecting Co., information on Wescodyne
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808. Deep breather
809. DiSPo Tray
810. Reagent Strips
811. Ironer covers
812. Stretcher
813. Electrodyne
814. Audiometric testing room
815. Mattress cover
816. Deodorant compound
817. Draping sheet
818. Food cart
819. Manifold control unit
820. Unloading washer
821. Tincture
822. Needle support
823. Patient radio
824. Heater-stirrer
825. Infusion standard
826. Storage tube
827. Stereo microscope
828. Deodorant
829. Door mountings
830. Coordinated outfit
831. Emergency lighting
832. Soapless cleanser
833. Bedside bag
834. Pager
835. Fabric blinds
836. Intertrochanteric appliance
837. Invalid walker
838. Soap dispenser
839. Felt point pen
840. Deodorizing machine
841. Sterilizing racks
842. Lotion
843. Floor machine

AMERICAN SURGICAL TRADE ASSOCIATION

855C. Blood donor set
856C. Bandages
857C. Surgeons' gloves
858C. Surgery cap
859C. Post-Op Sponges

NEW LITERATURE

860. Management services
861. Parenteral therapy
862. Textbook-catalog
863. Food service equipment
864. Blood-grouping manual
865. Dietary booklet
866. Medico-legal film

Send more information on items circled. FEBRUARY, 1957.

800	808	815	822	829	835	841	858C	864	873A
801	809	816	823	830	836	842	859C	865	874A
803	810	817	824	831	837	843	860	866	875A
804	811	818	825	832	838	855C	861	870A	876A
805	812	819	826	833	839	856C	862	871A	877A
806	813	820	827	834	840	857C	863	872A	878A
807	814	821	828						

Other information .....

Name ..... Position .....
(Please Print)

Hospital .....

Address .....

City ..... Zone..... State.....

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803	810	817	824	831	837	843	860	866	875A
804	811	818	825	832	838	855C	861	870A	876A
805	812	819	826	833	839	856C	862	871A	877A
806	813	820	827	834	840	857C	863	872A	878A
807	814	821	828						

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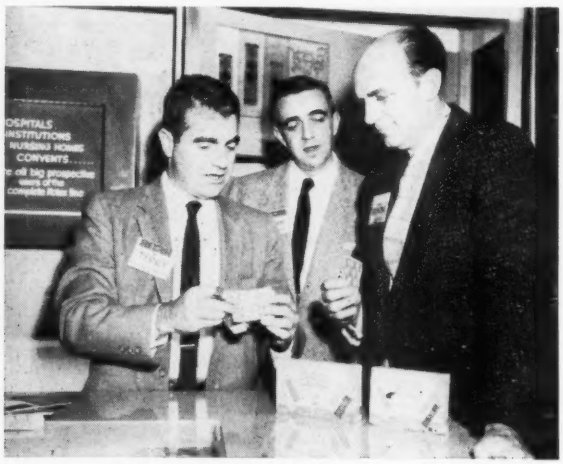
BUYER'S GUIDE

Continued

Pyramid of Products At ASTA

This page concludes a pictorial review of exhibits from the American Surgical Trade Association convention, November 14-18, New York City. For a report on the convention and other exhibit pictures, see pages 33-35 and 86-90 in the January issue of HOSPITAL TOPICS.

Robert Zimmerman (l.), Sterilon Corp., shows disposable blood donor set, Hemotrol, to Earl W. Yarling, Bellevue Surgical Supply Co. Hemotrol minimizes hemolysis, reduces danger of vein collapse, and improves donor comfort by permitting exact control of flow rate at all stages. Comes completely assembled and ready to use. 855C.



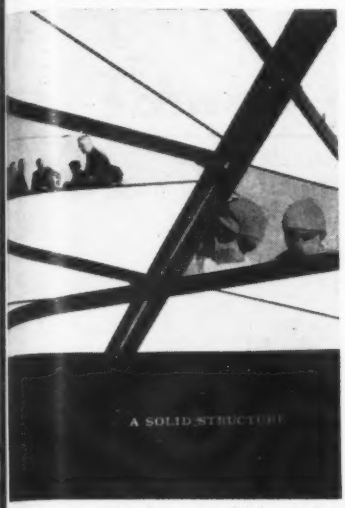
Tom Tierney (l.) and J. C. Drumm (center), Bauer & Black, tell J. E. Dixon, Melton Co., Inc., about Curad Battle Ribbon Bandages. Plastic bandages are available in packages of 100, to give vaccinations, cuts and scrapes on young patients a mark of distinction. 856C.

Frank LaBudde (l.), Durr Surgical Supply Co., watches as E. A. Adelman, The Perry Rubber Co., demonstrates Velvetex surgeons' gloves. New process produces latex glove with low incidence of dermatitis and other allergy conditions. 857C.

Nurse's surgery cap is shown by Rosalyn Barton Simon, Hollywood Turban Products Co., to Fred Bornstein, The Wendt-Bristol Co. Caps are designed for coolness, comfort, complete hair coverage, and are adjustable to any head size. 858C.

R. Smith, The Seamless Rubber Co., shows general purpose Post-Op Sponges to John Gronroos, Mayflower Surgical Supply Co. Made of soft, absorbent 20 x 12 gauze covering, smooth film of high-quality combed cotton, and two layers of highly absorbent white cellulose. 859C.

860. Management services



Three new brochures which define services of management organization are: "A Solid Structure," which deals with preopening consultation and management; "The Right Administration," on management services, and "Paid in Full," on installment plans for hospital bills. American Hospital Management Corp.

861. Parenteral therapy

Doctors, nurses, as well as students of medicine will find this Handbook on Parenteral Therapy convenient for quick reference. Chapters deal with body fluids, parenteral nutrition, technic of administration, and solutions for parenteral use. Cutter Laboratories.

862. Textbook-catalog

1957 textbook-catalog has just been introduced by manufacturer of surgical dressings. In addition to pictures and thorough descriptions, uses of each individual item are detailed. Handy index completes the 36-page catalog. Marsales Co., Inc.

863. Food service equipment

Four-page catalog shows typical units of complete Cres-Cor line of aluminum food service equipment. Cabinets, racks, tray and vertical carts, food conveyors, and carriers are among items included. Crescent Metal Products, Inc.

864. Blood-grouping manual

New, enlarged, third edition of "A Manual of Blood Grouping and Rh Typing Serums" contains 52 pages. Principles involved in blood grouping, blood typing and related laboratory procedures are discussed. Recommended technics are also described in detail. Illustrated with three pages of full-color photographs, many charts, and tables. Hyland Laboratories.

865. Dietary booklet

Facts for physicians and dietitians desiring an easily prepared cereal of high nutritional value are contained in small leaflet. Explains value in digestive disorders, aged patients, expectant mothers, infants, low-sodium and other specialized diets. The Cream of Wheat Corp.

866. Medico-legal film

"The Medical Witness" is the first in a series of six intended to acquaint physicians with their essentiality in litigation, and to dispel their fears of testifying in court. The 30-minute black and white 16 mm. film depicts right and wrong methods of presenting medical testimony. AMA Committee on Medical Motion Pictures.

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Uniform thinness is of prime importance in fine quality latex surgeon's gloves because it directly affects tear-resistance, tactility and flexing characteristics. For these reasons each Velvetex glove is individually inspected to assure you the finest possible glove.

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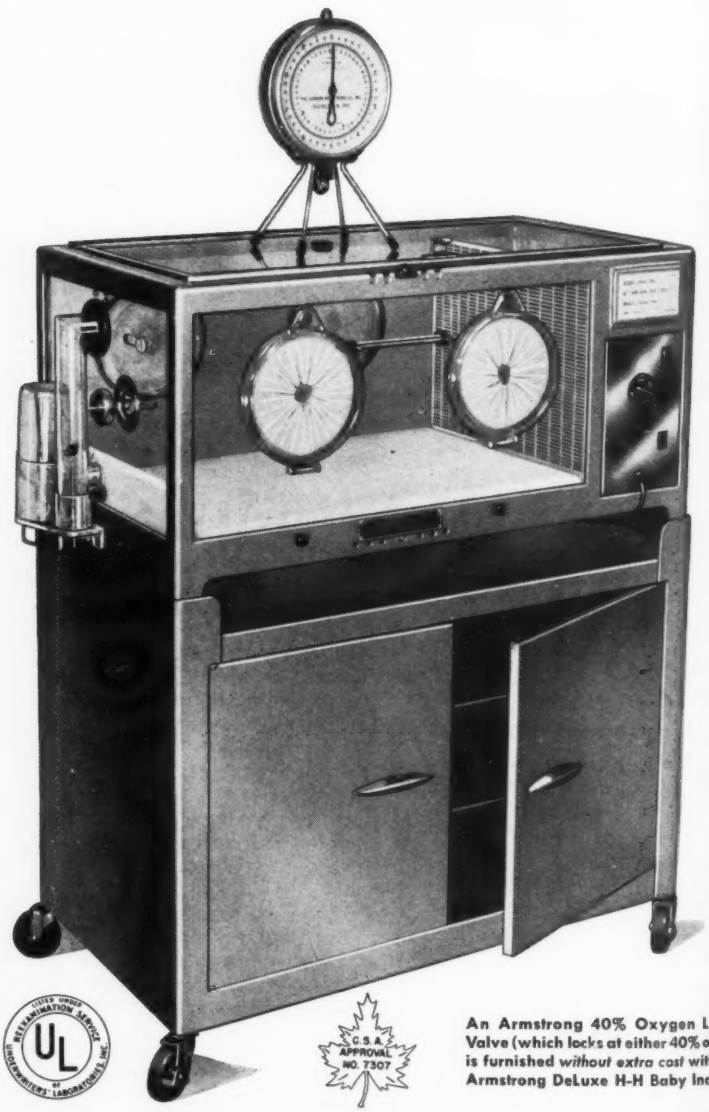

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OB DEPARTMENT

Graduate Training Program For Care of Premature Infant

By Mary Abel, R.N.*

Nurses in Indiana hospitals can obtain graduate training in the care of the premature in a new four-week program at the Methodist Hospital, Indianapolis. Methodist operates the fifth largest newborn service in the United States, and the largest in Indiana.

The program, a four-week course, operates five days a week to enable the student to return to her home over the week-end if she desires. Classes have been restricted to two to four students, because of present limited physical facilities, and in order to give additional supervision and instruction.

Three groups have completed the course, and it is planned to continue the programs as need and applications require.

To provide good premature care, the nursery personnel who have that responsibility should be given the chance to obtain additional experience under competent instruction in centers in which a large volume of clinical material is available.

Objectives of our course are to equip the nurse to give adequate and proper care to the premature infant, by acquainting her with principles of premature care, physiological handicaps of the premature infant, and basic skills essential for good premature nursing care.

Contributory objectives include having an understanding of the obstetrical aspects, prenatal care, premature labor and delivery, the total problem of prematurity, and the public health aspects.

The nurse-instructor gives lectures on the problem of prematurity, principles of premature care, a comparison of the full-term baby with the premature baby, and clinical appraisal of the premature infant.

A demonstration of special equipment is given, and a clinical appraisal of the premature infant. Emphasis is on the care of the premature infant in the delivery room, and admission to the nursery.

Feeding problems are stressed. Additional material is presented on oxygen, humidity, and temperature.

Criteria for discharge and instructions for home care are subjects of other lectures.

There is a discussion on adapting care to the physical facilities in specific situations and management of the premature nursery, and one on records and their importance.

C. O. McCormick, M.D., obstetrical advisor, lectures on the obstetrical aspects of prematurity. William Chattin,

(Continued on next page)

*Miss Abel is instructor and head nurse of the premature nursery, Methodist Hospital, Indianapolis, Ind.

Mrs. Elizabeth Grossman, obstetrics supervisor, and Patricia Miller (r.) student nurse, prepare a baby for examination in the examining room. This room is used by persons who do not work in the nursery, such as a doctor, or a priest who baptizes the baby.

M.D., chairman of the pediatric service, discusses the physiological handicaps of the premature infant.

The hospital dietitian provides a tour of the formula laboratory for the class and discusses formula preparation in an hour session.

Arrangements are made for two days of observation in the full-term nursery. This session has been provided because many nurses attending the program are responsible for full-term as well as premature infants.

The students watch delivery of both a full-term infant and a premature infant.

Observation in a prenatal clinic has been provided because of the importance of prenatal care in preventing premature births.

A field trip to the Planned Parenthood Clinic with students of the school of nursing has been arranged with the clinical instructor in obstetrics.

Because care of the premature baby does not end with the infant's dismissal from the hospital, the group accompanies a visiting nurse into a home in which there is a premature infant.

Various physical situations of premature care have been provided for the student to observe. Field trips are made to Indianapolis General Hospital, and to Coleman Hospital for Women of the Indiana University Medical Center, arranged through the administrator and director of nursing at each hospital. These trips emphasize that principles of premature care may be carried out in various ways at different hospitals.

The graduate students spend considerable time under close supervision in the nursery. Experience includes: daily bath; nipple, gavage, and polyethylene tube feeding; admission of the infant; care in the Armstrong incubator, the Isolette, and the rocking incubator; dismissal of infant; use of mist and aspirating equipment, and the use of good technic.

Mrs. Grossman (r.) and Mary Abel, head nurse, premature nursery, discuss a plan of infant care to be used in the graduate nurse program in premature care.

Miss Abel shows an incubator which rocks in four directions, giving additional stimulation to the "preemie" in his first 24 hours. It simulates motion in the mother's womb.

Parents may view their children through the large glass window at appropriate times. The average daily census in the premature nursery has been 18-20, with a high of 28. The busiest seasons seem to be during the Christmas holidays and during the summer months. At present only the babies of patients who deliver in our hospital are taken. We can't take outside cases because facilities aren't large enough.

CONFERENCES WITH INSTRUCTOR

Each student has three conferences with her instructor. The individual conference has been set up to help the student solve problems existing in her particular situation, and to assist in planning improvements and changes. Conferences are important, as the purpose of the course to improve care of premature infants in Indiana can only be accomplished by improving premature nursing care in the students' home hospitals.

Each student submits a written evaluation of the course, which is helpful in planning future courses. She receives a certificate upon completion of the course.

The idea for the course started in 1940, when the Indiana State Board of Health became interested in developing a premature center at an Indianapolis hospital. C. O. McCormick, M.D., was given the responsibility of finding a location and sufficient funds to finance the venture. Methodist Hospital offered the space, and the Variety Club of Indianapolis consented to finance it. When World War II started and Methodist Hospital became over crowded, the idea was dropped.

It was revived in 1954, when the Division on Maternal and Child Health of the Indiana State Board of Health, and the committee of the Indiana State Medical Association, with the help of Dr. McCormick, started looking for a hospital for a premature center.

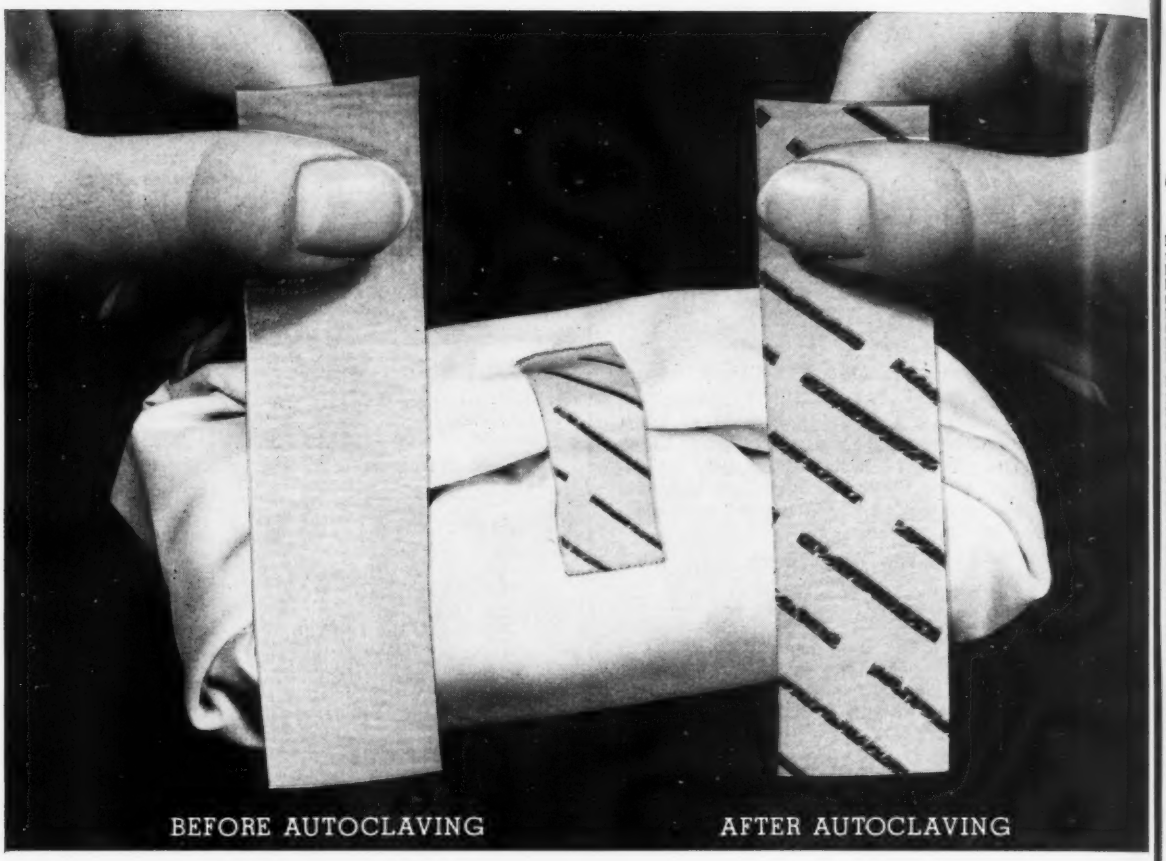
Methodist Hospital again showed a definite interest. Jack Hahn, administrator, called a meeting to discuss how a program for graduate nurses in premature care could be set up. Representatives of the Indiana State Board of Health, Indiana State Medical Association, and members of the pediatric and obstetrical staffs, director of nursing service, supervisor of obstetrics, and the head nurse of the premature nursery at Methodist attended.

The group decided that Dr. Chattin and the author should attend a premature institute at New York Hospital-Cornell Medical Center, New York City, in May 1955, under the sponsorship of Methodist Hospital and the Indiana State Board of Health. Upon returning, we guided the establishment of the program.

Classroom lectures and discussion take 22 hours; field trips 8 hours; orientation, individual conferences, demonstrations, and basic instruction, 64 hours, and supervised experience 66 hours. The total time spent equals 160 hours.

COURSE OUTLINE

Hours	Class	Nursery Experience
	FIRST WEEK	
	Introduction to course	Orientation to premature nursery
2	Problem of Prematurity	
1	Principles of Premature Care	Daily bath
1	Physiological Handicaps of Premature Infant	
1	Obstetrical Aspects	
1	Comparison of Full-Term with Premature	Nipple feeding
1	Clinical Appraisal of Premature	
2	Demonstration of Equipment	
1	Care of Premature in Delivery Room	Care in Armstrong incubator and Isolette
1	Admission to Nursery	
11	CLASS HOURS	
	SECOND WEEK	
1	Physiological Handicaps of Premature	Gavage feedings
1	Feeding	
1	Role of Oxygen, Humidity, and Temperature	Admission of baby and initial bath
1	Specific Conditions Individual Conferences	
4	CLASS HOURS	
	THIRD WEEK	
1	Family Relationships	
1	Criteria for Discharge Instruction for Home Care	Dismissing baby
1	Adopting Care to Physical Facilties	
1	Introduction to Full-Term Nursery	Full-term nursery for 2 days
1	Records and their Importance	
5	CLASS HOURS	
	FOURTH WEEK	
1	Formula Preparation	Prenatal clinic
1	Evaluation Conference Individual Conference	Field trip to Coleman & General
2	CLASS HOURS	



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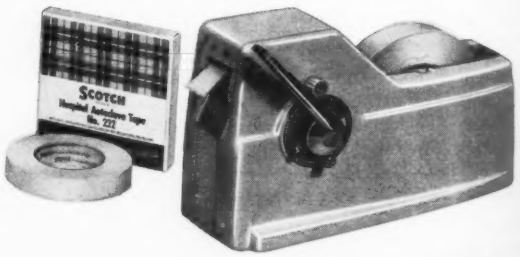

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NURSE ANESTHETISTS: (a) Alaska, 40 hr. week $650-750; (b) 80 bed Mid-West hosp, 40 hr. week, 1 mo. vacation, $550 per mo.; (c) Male, combine with adm. duties 40 bed hosp, to $7,200; (d) Large teaching hospital, New England, $500; (e) 90 bed hosp, Ga, $500; (f) O.B. anes, Ind, 1 mo. vacation, 12 day sick leave, $500; (g) 100 bed hosp, Ala, $500; (h) Male for small hosp, to $650, Mid-West.

PURCHASING AGENTS: (a) Large 400 bed hospital, $8,500; (b) 200 bed hospital, Texas, $6,000; (c) 300 bed hospital, East, $7,200; (d) 450 bed hospital, South, $6,000.

HOUSEKEEPERS: (a) Executive housekeeper, Calif, $5,400; (b) 400 bed hosp, well organized, new equipment, $5,000; (c) Large teaching hospital, medical center, South; (d) 500 bed hosp, Mid-West.

PHARMACISTS: (a) Chief, Mid-West, male, $550; (b) Chief, 350 bed hosp, Mid-West, $450; (c) Asst. Phar. M or F, New England, $450.

SUPERVISORS: (a) Obstetrical Sup, large teaching hosp, 700 beds, South; (b) 200 bed hosp, Mid-West, Sup. $450 per month for O.R. Sup; (c) O.R. Sup, Chief, large teaching hosp, $500; (d) Industrial Nurse, M or F, large city, North, $375 to $450.

X-RAY TECHNICIANS: (a) Chief Tech, Mid-West, $350-450, 60 bed hosp; (c) Comb. X-Ray and Lab Tech, $450; (c) 100 bed hosp, new, chief, all new equipment, $425.

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Mary A. Johnson, Ph.D., Director

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We do have many interesting openings for Administrators, Physicians, Anesthetists, Directors of Nurses, Dietitians, Medical Technicians, Therapists, and other supervisory personnel.

No registration fee

Director of Nursing Service: 64 bed general modern hospital, mild southern climate, northern Alabama. Because of increased activity, well-qualified person needed. Salary commensurate with experience and ability. Paid vacation, holidays, sick leave, Social Security. Apply: Thos. L. Qualey, Administrator Athens-Limestone Hospital, Athens, Alabama.

WANTED: Nurse anesthetist — new 200-bed hospital. Modern equipment—active department. Apply administrator, Bradford Hospital, Bradford, Pa.

PERSONALLY SPEAKING
(Continued from page 51)

Ala. She had been chief, nursing unit, VA regional office, Buffalo, N. Y.

New Officers

B. H. Wainscott, administrator, Lee General Hospital, Pennington Gap, Va., has been installed as president, Council of Southwest Virginia Hospitals. Other new officers are: president-elect, **S. L. Pickering,** administrator, Park Avenue Hospital, Norton, Va.; executive secretary-treasurer, **Mrs. Glenna B. Moore,** Bristol, Va.; directors: **Fred E. Smith,** administrator, Mattie Williams Hospital, Richlands, Va., and **Waldo McNutt,** Wise (Va.) Memorial Hospital.

Ruth de Fallot, Ft. Myers, has been elected president, Florida Association, Medical Record Librarians. Other new officers are: **H. Virginia Killey,** St. Petersburg, president-elect; **Marion L. Cousart,** Deland, secretary, and **Jean Kelsey,** Clearwater, councilor.

Arizona Hospital Association has elected the following officers: **G. M. Hanner,** administrator, Good Samaritan Hospital, Phoenix, president; **James L. Cline,** administrator, Gila County Hospital, Globe, vice-president; **Mrs. Florence L. Ladner,** administrator, Hoemako Cooperative Hospital, Casa Grande, secretary-treasurer.

Trustees to serve a three-year term are: **M. G. Wolfers,** administrator, Tucson Medical Center, and **James L. Thomas,** administrator, Wickenburg Community Hospital, while **H. F. Hancox,** administrator, John C. Lincol Hospital, Sunnyslope, was elected to a one-year term.

Ann Conner, Tallahassee, has been elected president, Florida Association of Nurse Anesthetists. Other officers are: **Mildred V. Buchanan,** Jacksonville, first vice president; **Mrs. Leana Kubus,** St. Petersburg, second vice-president, and **Minerva McLane,** Tallahassee, secretary-treasurer.

Deaths

Helen T. Connolly — 66, resident director of nurses, Wilmington (Del.) General Hospital, died November 29. She was a co-founder, Doris Memorial Unit of Wilmington General Hospital, the only contagious hospital unit in Delaware.

H. B. Dismond, M.D. — 64, died November 21 in New York City. He was director, physical therapy department, Harlem Hospital.

Mark H. Eichenlaub—65, died December 27. He was superintendent, Western Pennsylvania Hospital, Pittsburgh, from 1922 to 1952, and a first vice president of the American Hospital Association.

Robert Elman, M.D. — 57, died recently. He was noted for his research in pancreatitis and amino acids, and also gained recognition for research into burn treatment and intravenous feeding.

Frank A. Evans, M.D. — 67, former physician-in-chief, Western Pennsylvania Hospital, Philadelphia, died December 13. He was widely known for his contributions to medical research, having published over 40 scientific papers.

S. Philip Goodhart, M.D.—84, former chief neuropsychiatrist, Montefiore and Morrisania Hospitals, the Bronx, N. Y., died recently. He also served as professor of neuropsychiatry, New York Polyclinic Medical School and Hospital, and professor of clinical neurology, College of Physicians and Surgeons, Columbia University, New York City.

Downey L. Harris, M.D.—81, St. Louis pathologist and bacteriologist, who developed the freeze drying method of preparing anti-rabies vaccine, died December 23.

James J. Lawler, M.D. — 64, founder of Cambridge (Mass.) Industrial Clinic and Cambridge Relief Hospital, died December 4. He was also chairman, Otis General Hospital, Cambridge.

John De Vinne Singley, M.D. — 87, a founder of the American College of Surgeons, died December 7. He also founded the Pittsburgh Surgical Society.

J. Gurney Taylor—84, chief of staff, the former Milwaukee (Wis.) Infants' Hospital, died November 30. He was on the staffs, Milwaukee Children's, Columbia and Johnston Municipal Hospitals, Milwaukee, Wis.

Joseph H. Ward, M.D. — 86, died December 12. He was former superintendent, VA Hospital, Tuskegee, Ala.

Illinois Nurses' Group Changes Name

The Illinois State Nurses' Association has changed its name to Illinois Nurses' Association, Francis L. A. Powell, president, has announced.

The professional organization for registered nurses is affiliated with the American Nurses Association.

Medical Librarians to Award Scholarships

The Medical Library Association will award eight $150 scholarships for summer courses at the library schools of Columbia University, Emory University, the University of Illinois, and the University of Southern California.

Applications for scholarships should be made to the school at time of enrollment application.

For information, write—the Dean, School of Library Service, Columbia University, New York 27; the Director, Division of Librarianship of Emory University, Emory University, Ga.; the Director, University of Illinois Library School, Urbana; or the Director, School of Library Science, University of Southern California, Los Angeles 7.

Cerebral Palsy Group Elects Officers

The United Cerebral Palsy Association, Inc., has elected Roger S. Firestone president, succeeding Louis C. Whiton, Norwalk, Conn. Mr. Firestone is president, Firestone Plastics Co., Pottstown, Pa.

Leonard H. Goldenson, New York City, President, American Broadcasting Co.—Paramount Theatres, Inc., was elected to a third term as chairman, board of directors.

Julius R. Pollatschek, Elizabeth, N. J., was elected vice-president of the eastern region, and national legislative chairman.

VA Advisory Group Names Members

The VA Special Medical Advisory Group has appointed three new members.

Harold G. Scheie, M.D., professor of ophthalmology, University of Pennsylvania, Philadelphia, succeeds David O. Harrington, M.D., San Francisco, associate clinical professor of ophthalmology, University of California.

Harold A. Sofield, M.D., chief, department of orthopedic surgery, West Suburban Hospital, Oak Park, Ill., succeeds Mather Cleveland, M.D., consulting orthopedic surgeon, Presbyterian and St. Luke's Hospitals and surgeon-in-chief, House of St. Giles the Cripple, New York City.

Mary L. Hemmy, professor of social case work, University of Pittsburgh, succeeds Ruth Cooper, Ph.D., associate professor of social case work, University of California School of Social Welfare, Berkeley, Calif.

The group advises the administrator of veterans' affairs and the chief medical director on the VA medical program.

Dr. Hamilton Named Medical Woman of 1956

Alice Hamilton, M.D., 87, has been named "Medical Woman of the Year" by the Boston chapter, American Women's Medical Association.

A pioneer in industrial medicine, Dr. Hamilton directed the first comprehensive survey of occupational diseases in 1920. She was a leader in bringing the need for legislation to protect workers before the Illinois and national governments.

Iowa, New Hampshire Have Most Old People

Iowa and New Hampshire have the highest proportion of elderly people, according to Metropolitan Life Insurance Co. statisticians. In both states 11 percent of the total population is 65 or older.

New Mexico and Arizona have the lowest proportion in the 65 or older bracket—5.3 and 5.8 percent, respectively.

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HERB-MUELLER Ether-Vacuum Apparatus

The AS-7 Herb-Mueller Ether-Vacuum Unit provides the ultimate in dependability for your operating room. It keeps the patient properly anesthetized with an even flow of controlled ether vapor, and maintains a powerful vacuum up to 25 inches Hg. for clearing the operative field. Features include:

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- Reinforced steel cabinet mounted on 4" conductive casters. Stainless steel top and gray hammerloid enamel finish are ether-proof and stain-resistant. Overall cabinet height is 47", requires a space of 29" wide, 15" deep.
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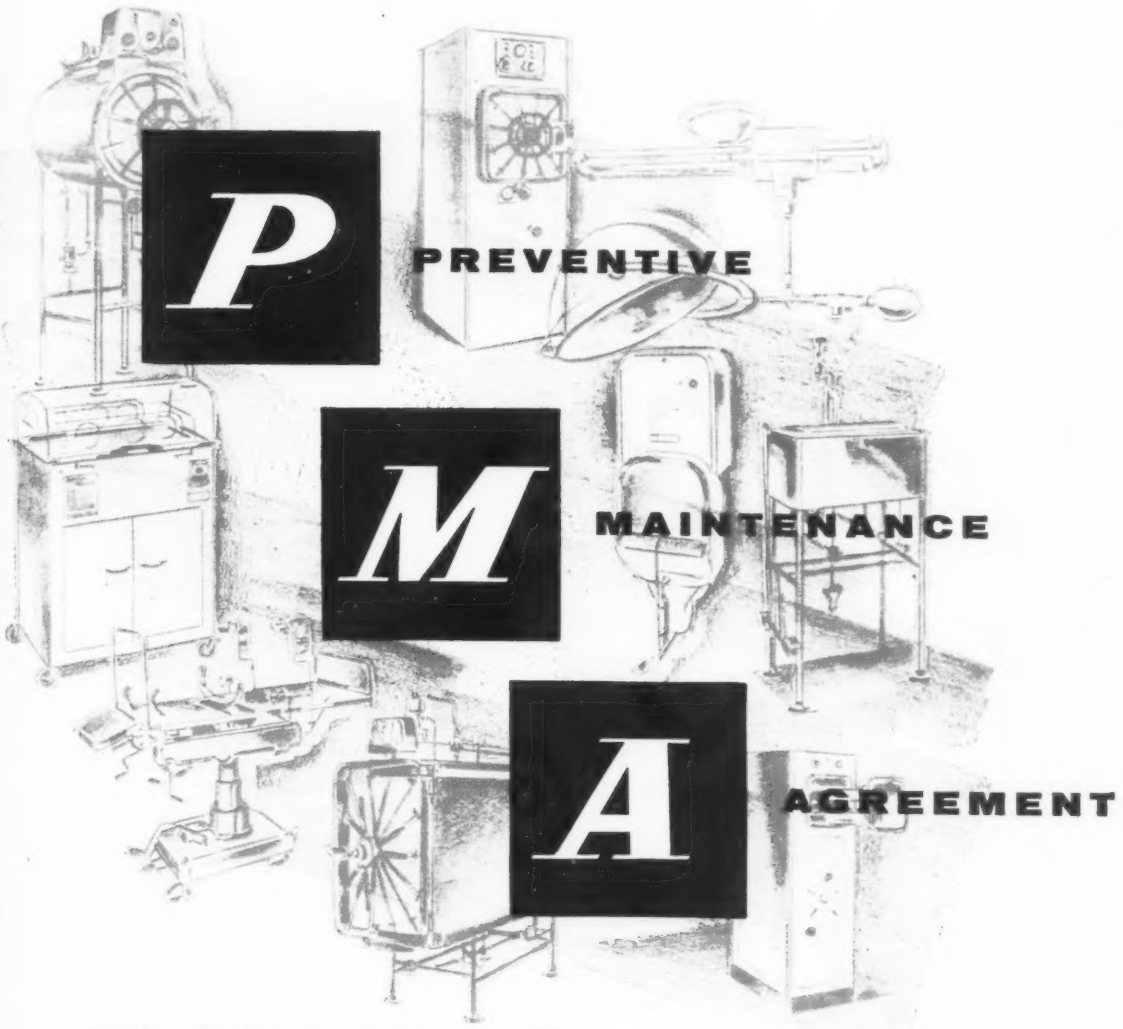

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Presbyterian-St. Luke's Tells Building Program

The development program of the recently merged Presbyterian and St. Luke's Hospital, Chicago, has announced that $18,500,000 will be spent on building and modernization projects launched at the West Side Medical Center.

Included are plans for a 13-story hospital pavilion; new cafeteria and kitchen; remodeling of existing Presbyterian Hospital buildings; a Presbyterian-St. Luke's nursing school addition; a new professional building for staff doctors, and an apartment building for hospital personnel. A nearby commercial building will be purchased and remodeled as an outpatient clinic.

A large portion of the total cost will come from available funds and the remainder will be raised through public subscriptions. The professional building and apartment building will be financed on a self-sustaining basis.

Interior Design Awards To Four Hospitals

Four hospitals and a nursing school won awards from *Institutions Magazine* for outstanding achievement in interior design.

They are: St. Joseph's Hospital, Philadelphia, lobby and administrator's office; Boston Lying-In Hospital, Brookline, Mass., public areas; Michael Reese Hospital, Chicago, Kaplan Pavilion, lobby; Swedish Hospital, Seattle, Wash., public areas, and Mercy School of Nursing, Gonzaga Memorial Hall, Hamilton, Ohio, public areas.

The awards were presented in New York City at the 1956 Institutions Interiors Awards Program Reception.

Report Cost of Federal Medical Programs

The American Medical Association has announced that $2,500,000,000 is being spent this fiscal year by the U. S. Government for health and medical programs.

In its annual survey on federal spending on these programs, the association stated their average cost per family was $54.61.

Money was used for veterans' care, Indian health, hospital construction and other related programs. It represents an increase of $290,000,000 over last year.

VA Hospital Employees Receive Incentive Award

Employees of the VA Hospital, Fort Lyon, Colo., were presented the largest incentive award in VA history—$4,360—by William S. Middleton, VA chief medical director, on November 12.

The money was given in $10 shares to the 436 employees who were on duty six months or more as of May 2, 1956. In addition to the cash award, each employee received a certificate of commendation.

The Fort Lyon hospital previously received the Achievement Award of the Year from the American Psychiatric Association for showing the most improvement in patient care of any U. S. hospital during 1955.

It is a 781-bed hospital specializing in care of mentally ill veterans.

Connecticut Hospital Group Issues Booklet

The Connecticut Hospital Association, New Haven, has issued a new booklet on accreditation to its members.

Entitled "Your Hospital Has Earned the Right to Display—*THIS SYMBOL*," the booklet is intended to enhance good public relations. It explains what accreditation is, and the procedure by which hospitals are accredited.

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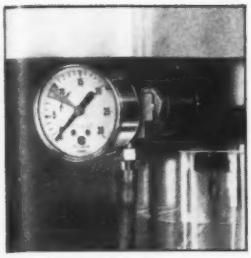

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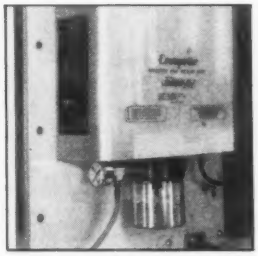

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The Book Corner

Handbook on Medical Terms

MEDICAL TERMINOLOGY MADE EASY. By JeHarned, R.N., R.R.L. Chicago: Physicians' Record Co. Third printing. 1956. 275 pages. $5.

Clinical instructors, nursing students, administrators, medical secretaries, medical record librarians, and all who work in the medical field will find this book helpful.

The author, chief medical record librarian at Duke University School of Medicine and Hospital, clarifies vocabulary for those unfamiliar with medical terms by analyzing the Greek or Latin root and giving an example of its medical use.

Abbreviations and symbols used extensively are listed, as are medical equivalents of lay terminology.

The medical vocabulary is broken down into body structures, conditions and diseases, analyses of words and phrases, word meanings, and definitions. A chapter is devoted to medical case records and words commonly found in them.

Fluid Balance Manual

FLUID BALANCE HANDBOOK FOR PRACTITIONERS. By William D. Snively, Jr., M.D., A.A.G.P., and Michael J. Sweeney, M.D., A.A.P. Springfield, Ill.: Charles C Thomas. 326 pages.

A handbook written particularly for the practicing physician. The culmination of years of experience in teaching the theory and application of fluid balance to medical students, residents, practicing physicians, lay representatives and nurses make this handbook a "working manual."

To gain maximum clarity and understandability, every phrase, chapter, section, and illustration was submitted to practitioners and rewritten if necessary.

Clear terminology is used throughout. The authors chose a practical systematic classification of fluid imbalances, then extended and simplified it. New teaching technics, lucid visual aids and everyday analogies for difficult concepts have been developed.

The simple physiologic system of therapy presented follows logically from clinically oriented sections on foundation facts and clinical diagnosis. Detailed case histories, illustrative of therapy methods are presented.

This first of all fluid balance texts written for and pre-tested by practicing physicians is very fittingly closed with a "do it yourself" chapter.

This is a primer that should do much to orient the reader with respect to clinical disturbances of the body fluids and be a stimulation to the intensive study required for practical mastery.

Nursing Home Information

NURSING HOMES and RELATED INSTITUTIONS. Division of Hospital Services, Georgia Department of Public Health, Atlanta. 1956. 104 pages.

Material in this manual will be valuable both to the experienced and to the person or organization interested in starting a nursing home.

The manual will be useful to the administrator in re-evaluating his operational plan in the light of recent changes in patient care and management policies.

Detailed attention is given to organization, business management, patient care, food service, housekeeping, buildings and grounds, and safety. A suggested code of ethics is included.

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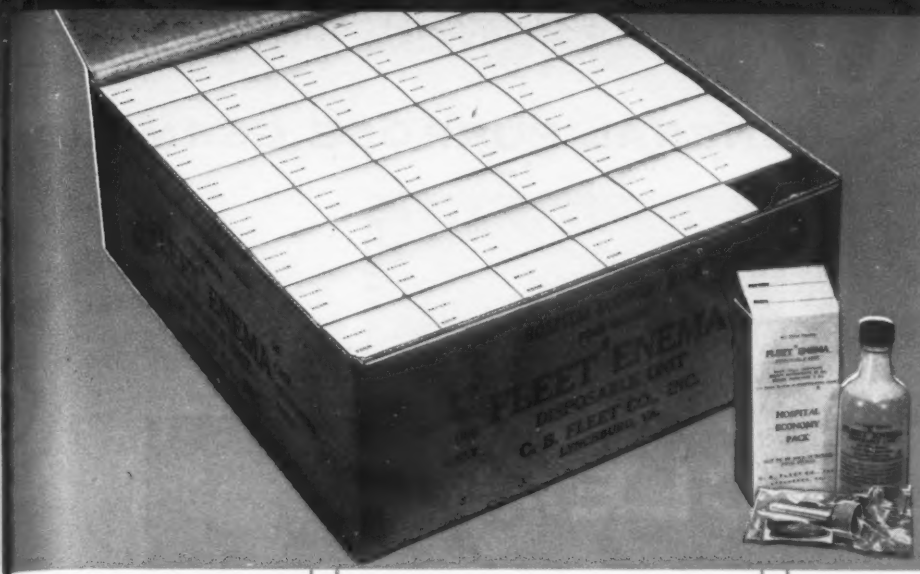

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Pediatrics

The Principles of Pediatric Rehabilitation

By Abram Kanof, M.D., Joseph B. Rogoff, M.D., and Herbert A. Fischler, M.A.*

I. Treat the Whole Child

The basis of rehabilitation is that the whole child must be treated; that the sick child has not only a handicap but also emotions; that he needs play, he must learn, he must orient into a family group, and he must eventually earn a living.

The handicaps of children may be classified as the following, each of which may require a different medical approach: (1) Visceral (cardiovascular, genitourinary); (2) musculo-skeletal; (3) communication, and (4) psychiatric.

The child's emotions must be considered in treating him. *Frustration* caused by the numerous physical obstacles of everyday living may limit his rehabilitation. Some of these obstacles are: too-high steps, too-small shoelace eyelets, intricate toilet furniture, and slippery eating utensils.

Loneliness may complicate his care. Because he is not accepted by the majority and has no well-defined minority to attach himself to, he may be isolated. *Demotivation* may be a problem because the long and tedious rehabilitation program is beyond his ken.

All these problems he brings to his original personality, increasing the normal strains of childhood.

Play offers a pleasant method of exercise and an opportunity to discover special aptitudes, and it may lead to increased understanding of the child's psychological make-up.

Play fulfills deepseated needs for the handicapped child. For the child who is developing a withdrawn behavior pattern, it offers an opportunity for projection and extroversion; for others it offers a realm for protection fantasies.

School work under a professional teacher and in the company of other children may help overcome such anti-social trends as self-consciousness, shyness, selfishness, and aggressiveness. It helps bring out vocational talents, and it may give meaning to such purely therapeutic pursuits as speech therapy, writing, arts, and crafts.

The child's mind is kept active, receptive, and productive.

The rehabilitation program should include periods at home. The child should know his brothers and sisters. He should look for help and support from his parents. The parents should participate in basic decisions and can be taught to carry on some aspects of the treatment during home periods.

The family must not overindulge, reject, or by self-incrimination create an undesirable home environment.

The need to be a wage-earner is basic in our society and comes up early in the rehabilitation process. Its importance is twofold: To meet the requirements for material needs, and to furnish status. The type of work decides the level of status in today's society, but not to work is the lowest status of all.

II. Define Prognosis in Terms of What Remains

Between convalescence and a complete return to physical, psychological, and social normality there is a wide spectrum of possible amelioration. At this stage, the physician weighs the functional potential of what remains after the active pathological process has subsided, plus known substitutes for that which is gone, against the available facilities and the patient's ability to utilize them.

On a rehabilitation service we accept the idea that limited functional goals and their psychological acceptance are worthwhile achievements. However, while small goals are worthy of great effort, extraordinary exertion for attainments which are more satisfactory to the physician than practical for the patient will be abandoned after the training environment is left behind.

III. Re-establish Function

Therapy is oriented not necessarily to reversal of pathology but to establishment of function, utilizing residua.

Function is thought of in elementary terms. In the lower extremities, one function is *support*. Support requires stability. The flail ankle, whether due to poliomyelitis, spina bifida, nerve trauma, Guillan-Barre syndrome, or primary muscle disease, must be stabilized. A brace may do it. Where the instability is only of the ankle joint, an arthrodesing procedure may effect stabili-

(Continued on next page)

*From the Jewish Chronic Disease Hospital, Brooklyn, N. Y., and the department of pediatrics, New York State University College of Medicine, New York City. Dr. Kanof is a pediatrician, and Dr. Rogoff is a specialist in physical medicine.

zation more comfortably, or tendon transference may give both stabilization and ambulation.

The second function of the lower extremities is *ambulation*, which requires muscle strength and joint flexibility. If the joint is fixed it must be released. The same methods are used, even though a variety of diseases cause the contracture. Stretching by manual or other means may suffice. Incision of fibrosed tendons or capsule may be needed. Residual muscle power may be redistributed.

If all these methods fail, a self-propelling wheelchair or stretcher still attains the basic function of these extremities; to take the individual from point A to point B.

The pelvis and/or ureters may fail, because of anomalous structure, repeated infection, stones, or from dilatation, to conduct the kidney filtrate to the bladder for elimination. This function can be taken over by nephrostomy, by construction of a new conduit from a section of gut, by installation of a permanent ureteral catheter, by removal of redundant ureter, by a super-pubic drain, by an indwelling catheter, or by other procedures or devices.

IV. Rehabilitation Is a Long-Range Process

Rehabilitation begins with convalescence. Evaluation, treatment, re-evaluation, and again treatment, as long as there is a rational expectancy of even minor improvement, takes months and years. This is no "wonder-drug" therapy; every weakened muscle, every deformed joint, every displaced molar, every deficient enunciation receives full attention.

V. Rehabilitation Demands Teamwork

The basic concept of rehabilitation is that treatment of the sick child includes reinstatement into his environment. Since environment is a complexity of medical, psychological, educational, vocational, and social factors, and since reorientation into each sphere requires its own highly trained practitioners, rehabilitation can best be practiced by a group of specialists working as a team.

Teamwork is a psychological climate which motivates members of a group toward the single objective of patient welfare—a state of mutual respect which permits

Getting the most function out of the residua needs ingenuity and patience on the part of patient and therapist.

professionals to modify their specialized habits for the sake of the common goal. Differences which interfere with teamwork arise, when they do, at the chief points of contact within the team: relationship of physician to physician, physician to non-physician, team member to family, and team member to patient.

Some reorientation of attitudes is required to minimize disrupting influences. The professional training and outlook of the non-physician team member must be recognized. The psychologist, therapists, social worker, and vocational counselor are not present to perform duties which only lack of time prevents the doctor from carrying out; they are not merely technicians to carry out a few tests or administer prescribed treatment. They are professional people with professional training and a professional point of view.

In the physician-to-physician relationship, the greatest difficulty is for highly trained and individualistic specialists to discuss their findings and proposals with men trained in other fields. In the physician-to-patient-or-parent relationship, the team physician must recognize that popular education in medicine and economic participation of lay people in research have given the public a feeling of belonging which he can no longer ignore.

The medical team for rehabilitation of the child consists of the pediatrician, the physiatrist, the orthopedist, the urologist, the neurologist, the psychiatrist, the otologist, and the dentist. The nonmedical or paramedical members of the team include the psychologist, the nurse, the social service worker, and the physical, occupational, and speech therapists. The diverse functions of this team are integrated by a coordinator who may come from any of these specialties.

PEDIATRICIAN'S ROLE

The pediatrician on the team can fulfill one or all four functions: pediatrician, coordinator, surrogate, and investigator. As the pediatrician he writes a history which presents an integrated story of the child's physical, psychologic, and sociologic problems, searches for possible etiologic factors, and maintains the thread of the story through a chart which may grow for years.

At the evaluation conference, he emphasizes the special needs of the child, and marshals the pediatric considerations which may decide timing when indications for more than one specialized procedure arise. Problems of nutrition, infection, and contagion are of course referred to him.

As coordinator the pediatrician arranges for admission of the child, selecting those who can best benefit by the

Positioning in the tilt table for 20 minutes twice a day prevents osteoporosis.

mited facilities usually available. He supervises the preliminary period during which team members see the patient in consultation, promotes the completion of laboratory work and clinical studies, maintains contact with the family, and arranges for the evaluation conference.

After the conference he records a summary of the team findings and its proposed rehabilitation plan. He then cooperates with the rest of the team to maintain a continuous evaluation process, noting the results of all aspects of the treatment, and later reports back to the evaluation conference the data on which the team will make its next decision.

As coordinator, too, he sees that the patient is prepared for operation. If physical therapy is indicated postoperatively, he sees that the physiatrist is alerted. The wishes of each member of the team are conveyed to relevant other members. Finally the coordinator, in closest and most constant touch with the patient, observes his mental reactions closely and brings this important aspect of the child's welfare to the group's attention.

As surrogate the pediatrician is called upon, willy-nilly, to make decisions for the handicapped child which are actually not medical but parental and domestic. Shall the child go to school? If so, what kind should he attend? Shall he play with other children on the street? Will he perpetuate his defect? Should he receive religious instruction? Shall he remain at home or be institutionalized?

In this role he is confronted by the psychologic and social effects of the child's illness on the parents—their sense of physical and social inadequacy, feeling of guilt, indecisiveness regarding additional children, self-pity, and financial strain, their awful uncertainty about the future.

As investigator the pediatrician has a special interest in the psychological aspects of rehabilitation, the limitations which the specialties place on each other in carrying out a rehabilitation program, and the technic of bringing a whole team to bear on the disabilities of a single patient.

He can investigate problems involving the interest of all, but has the particular responsibility for problems involving no one discipline on the team: for example, an integrated study of the psychologic, urologic, orthopedic, and nursing problems involved in the maintenance of perineal cleanliness in a patient with spina bifida, and the prevention of trophic ulceration.

An important member of the rehabilitation team, the nurse is invaluable in the estimation of a child's ability to get along and in the prevention of infection.

VI. Teachability Is the Cornerstone of Rehabilitation

When muscle, nerve, joint, or perceptive organ cannot be restored, the child must learn to substitute. Teachability is determined by intelligence plus motivation plus acceptance. It is influenced also by the severity of the handicap and the nature of the handicapping disease.

These latter factors permitting, and intelligence being reasonably good, motivation and acceptance can be stimulated by good psychological methods. The patient is therefore the most important member of the team.

VII. Parents Are on the Team

The program needs parents who can continue treatment at home when hospitalization is completed or interrupted.

Many problems are domestic and should be answered by the physician only when the parent is an active participant.

In a long-term program the relationship between phy-

(Continued on next page)

Socialization is essential for the chronically ill hospitalized child. Above is P.S. 401 in assembly.

sician and parent often calls out resentments or fatalistic dependency.

The Parents Institute can provide helpful information to parents. Added insight makes cooperation easier and minimizes friction.

VIII. There Is a Prophylactic Aspect to Rehabilitation

Application of rehabilitation principles may prevent development of four main complications of chronic disease: contractures, the metabolic consequences of immobilization, decubitus ulcers, and psychiatric disturbances.

Contracture. A joint becomes fixed when the soft tissues accommodate to an abnormal position by shortening and fibrosis of tendons, capsule, and skin. Abnormal angulation is due to the pull of gravity, as in flaccid paralysis, or to an imbalance of muscle forces, as in spastic paralysis. Oversized wheelchairs, Gatch beds, knee pillows, and lack of attention to positioning are frequent causes.

Contractures interfere with rehabilitation and prolong treatment time. Prevention: proper positioning and splinting and daily range of motion exercises. In some rarer conditions, such as dystonia musculorum deformans, pain and extreme muscle spasm may interfere with proper positioning or full range of motion exercise. However, an effort should always be made.

The Metabolic Results of Immobilization. These are:

(1) Loss of muscle protoplasm as shown by negative balance of N_2, P, K, S, in proportions found in muscle.

(2) Decline in creating tolerance.

(3) Conditions favorable to precipitation of Ca PO_4 in the urinary tract—increased excretion of urinary calcium, increased excretion of urinary phosphorus, a slight rise in urinary pH, failure of urinary citric acid to rise, absence of increase in urine volume.

(4) A slight drop in basal metabolism.

The incidence of these metabolic sequellae may be reduced by:

(1) Exercise—passive (early) and active (as soon as possible). Each extremity should be moved through its full range of motion at least twice daily; (2) tilt table—20 minutes, twice daily; and (3) high protein diet.

Decubitus Ulcers. These are caused by pressure, moisture, and lack of cleanliness. Additional factors, such as a negative protein balance or "trophic" factors, aid in their formation but are not in themselves causes. Decubitae are much easier to prevent than to cure.

Preventive methods include good nursing care—frequent turning, cleanliness, dryness—and special methods—use of Stryker frame, alternate-pressure mattress, or split mattress. Surgery may be performed to remove bony prominences or do plastic repair.

Psychiatric Disturbances. The child may react to chronic illness in one of four ways: with prolonged anxiety and fear; with negativistic behavior—resentment and hostility; with withdrawn behavior—passivity, resignation, listlessness, or with inability to see a new picture of himself.

The behavior pattern may be as much a reaction to the home situation as to the illness. While it reflects the child's original personality make-up, it is strongly influenced by the new situation. The reactions described, if permitted to develop, prolong, confuse, and interrupt the treatment.

To prevent or modify abnormal reactions, the child needs reassurance, establishment of a surrogate figure (doctor or therapist or psychologist), minimizing of body pain, an opportunity for self-expression, and confidence in himself and his doctors.

IX. Growth and Development Affect Rehabilitation

The changing psychological and physical status of a child calls for a creative and flexible attitude by the rehabilitation team. Lack of perception and instinctive fearfulness lead to greater and more capricious recalcitrance in the child. These factors may be greatly exaggerated in a child with congenital anomalies, whose entire experience is confined to hospital life.

In some children organic brain damage intensifies the psychotic manifestations and/or the problem of comprehension and communication. Finally, the psychological atmosphere is traumatized by the interposition of a third party between physician and patient: a parent or relative himself influenced by shame, guilt feelings, self-pity, disgust, and fatigue.

Rehabilitation of the child is delayed by the limitations of the developmental pattern. Functions cannot be taught or tested until their normal time of development. Tests of muscle strength are inaccurate until the child is old enough to understand what is expected of him and is willing to cooperate. However, training for all functions must be started as soon as the child has reached the adequate age. For example, artificial limbs should be fitted as early as they can be utilized.

The course of rehabilitation in a child is constantly beset by the ordinary childhood or pediatric problems: the special nutritional needs; the great susceptibility to infection and contagion, which influences the individual course and also sometimes drastically interferes with the status of an entire ward; the need for educational facilities, and the constant communication with a large number of interested social agencies.

The plastic physical status in the child and its influence on his rehabilitation is illustrated in the more frequent need for change in prosthetic devices. A child stricken with poliomyelitis at two years of age may need about six different braces by the time he is 16 years old. These changes are dictated not only by growth in size but by evolution of the maturing walk pattern.

Continuing growth in a child also creates the possibility of complications not ordinarily seen in adults. An example of this is spinal curvature, a complication of poliomyelitis due chiefly to the continuing growth of the spinal column.

Immaturity may also influence the timing growth of the spinal column and the timing of operative procedures. The best example of this is the triple arthrodesis, an operation which is usually delayed until the age of nine because before that age there is not enough cancellous bone with which to create a firm fusion, and also the operative procedure, with its stripping of much cartilage, may interfere with the development of a normal foot.

A hospital service devoted to rehabilitation of children encounters many disease entities which often limit survival and so are not frequently seen on an adult service: hydrocephalus, spina bifida, brain injury and maldevelopment, arthrogryposis, the chondrodystrophies, and others. Among the postinfectious problems peculiar to pediatric rehabilitation are those following encephalitis, meningitis, and poliomyelitis.

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Hospital for Joint Diseases Celebrates Anniversary

The Hospital for Joint Diseases, New York City, recently celebrated its 50th anniversary with a three-day symposium.

Forty papers were presented to the 400 physicians from nine nations attending. Dr. Detlev W. Bronk, president, Rockefeller Institute for Medical Research, spoke on "The Role of Medicine in Modern Society."

Abraham Rosenberg, executive director of the hospital, said that since the outpatient department opened in 1906, it has had over 6,000,000 visits. A large number of the patients were treated at nominal fees, or free of charge.

The hospital recently completed a two-year program of modernization at a cost of $2,500,000.

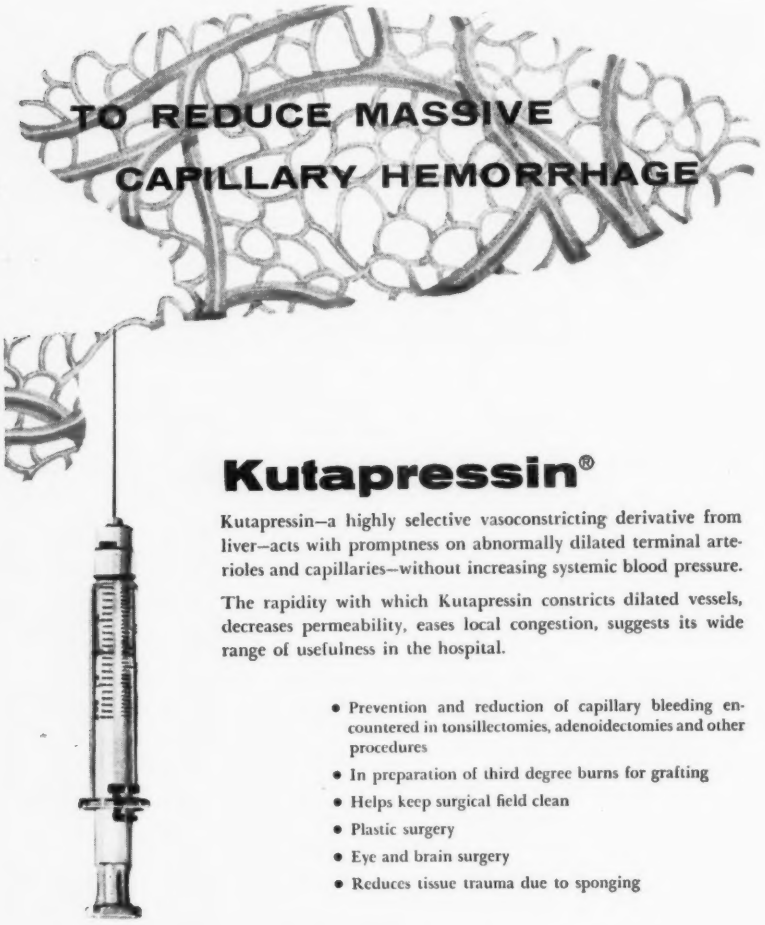
New Jersey Hospital Finds Patients Satisfied

Most patients at the East Orange (N. J.) Hospital are quite satisfied with the quality of care they received.

A recent survey showed that 88.5% of those polled would return to that hospital if hospitalized again. "No opinion" was indicated by 9.1%, and 2.4% said they would *not* return.

Questions ranged from whether the rooms were clean and well-kept (91.6% said yes, 1.7% said no, 6.7% had no opinion) to: "Was your hospital bill too high?" To that question 11.3% said yes, 46.1% said no and 42.6% had no opinion.

Food, the problem-child of hospitals, received favorable comments from 82.0%.



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High Blood Pressure Subject of VA Research

Six VA hospitals will conduct research on high blood pressure.

Edward D. Freis, M.D., VA Mount Alto Hospital, Washington, D. C., is coordinator of the study, which will try to determine how well newer drugs control high blood pressure and whether they can prevent hardening of the arteries, heart attacks and other complications of high blood pressure.

The drugs being tested are reserpine, hydralazine, pentolinium tartrate, chlorisondamine chloride, and mecamylamine hydrochloride.

Hospitals participating are at Mount Alto; Iowa City, Ia.; San Juan, P. R.; Chicago West Side; Richmond, Va., and a sixth not yet chosen.

Announce Contest for Family Physicians

A new series of international prizes for family physicians has been announced in London by B. D. Thornley, managing director, Benger Laboratories, a British pharmaceutical firm.

The prizes total 500 pounds and will be known as the "Benger Prizes for Original Observations in General Practice." Entries will be judged by the awards committee, British College of General Practitioners.

"The ideas or hunches which we are looking for may be concerned with the causation, diagnosis, treatment or prevention of any disease," Mr. Thornley said. All entries will be published in a book available to physicians.

All family physicians are eligible to submit entries, which may be in any form or length. Manuscripts should be addressed to Benger Laboratories, Ltd., Holmes Chapel, Cheshire, England.

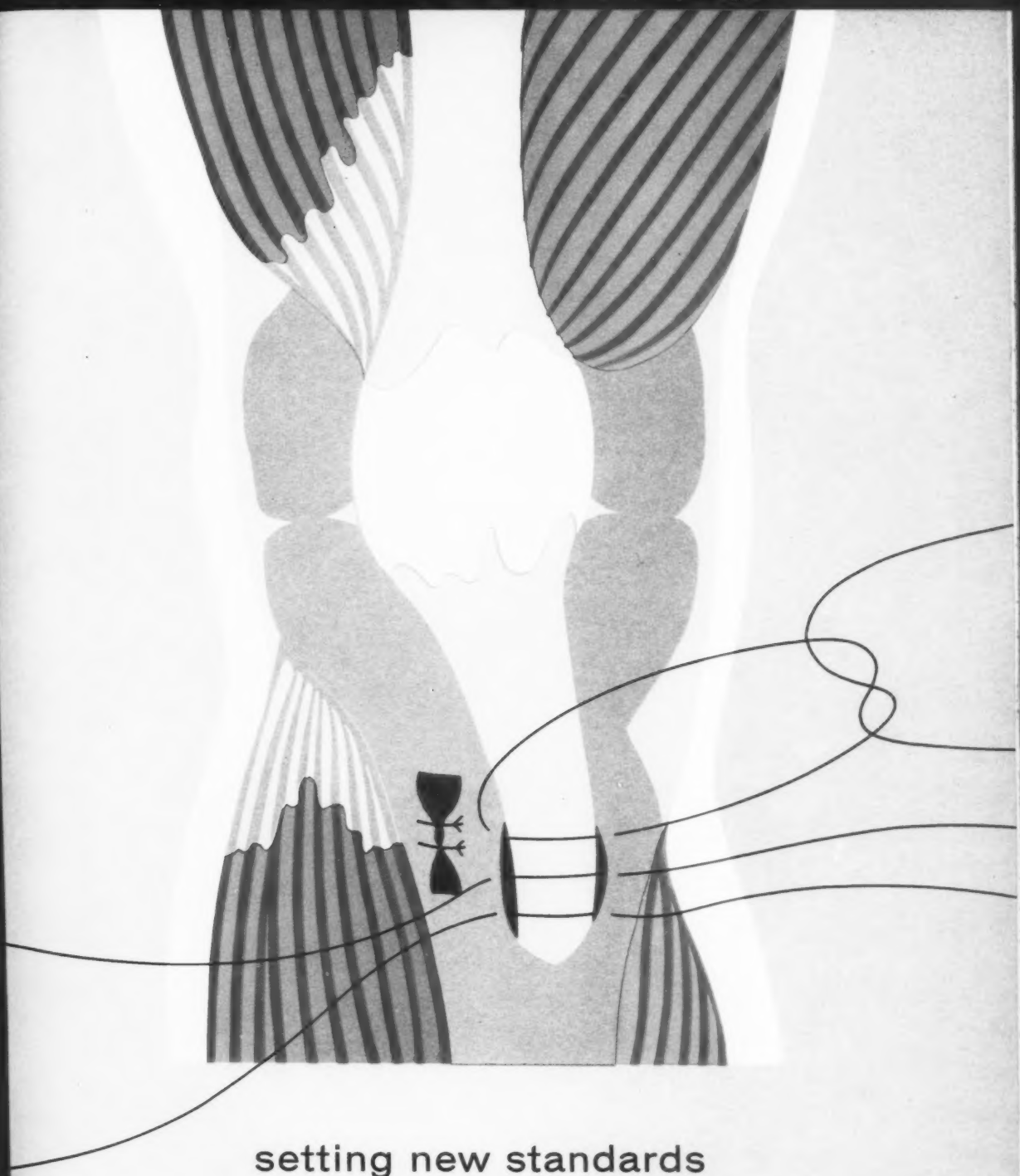

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Illustration by the author

By Marlene Burgess*

This space will be devoted each month to the clinical laboratory of the hospital and problems relating to its operation. Amidst all our glassware, procedures, and reports, we in the laboratory tend to lag behind the other departments in speaking up and voicing views or considering our problems. This is the laboratory corner. Write to us in regard to your interests, what items you would like to see discussed, and what you think of the matters which we present.

First, we shall discuss the importance of running controls with the chemical procedures in the laboratory. This practice has long been an established fact in good laboratory technic, and cannot be overemphasized. It is easy, however, to slip into the habit of not running controls with every set of prothrombins, blood sugars, and the like.

Variations in temperature, unstable reagents, instrument error, or glassware which has not been properly cleansed, can influence the results of a laboratory test. It is impossible for laboratory personnel to determine the accuracy of the tests performed unless controls are run with every group of laboratory procedures.

Commercial controls increase the efficiency of the laboratory. The price required for them is fully justified because of the value of the constant verification of the work going out of the laboratory. Administrators should not hesitate to assist their laboratories in securing these commercial controls when desired. They are a worthwhile investment.

For those laboratories which prefer to pool serum for its own controls, this method is of value. The only qualification which every laboratory should bear in mind is that accurate first determinations be made on every pool of serum.

In visits made to a great many hospital laboratories, we have observed that many of them fail to use controls for prothrombins, as well as the other chemical procedures. This places unwarranted faith in the reagents, the technic of the person performing the laboratory tests, and the instruments used.

There is no method by which one may be certain that all the reagents used are still good, or that careful technics have been employed, or that the instrument is working properly, except the method of checking these items, along with others, by the use of control tests.

Correct results are essential to a laboratory which merits the confidence of the physicians who use its services. These are obtainable only with impeccable technics and with the use of laboratory controls *every* time a set of tests is performed.

Do not rely too heavily on the quality of the work performed in your laboratory unless you are double-checking the laboratory procedures with control tests.

Next month we will discuss laboratory equipment. In the meantime, let us hear from you and we will try to provide information which will fill your needs.

*Miss Burgess is laboratory consultant with the Division of Hospital Services, Georgia Department of Public Health, Atlanta.

Read Label Before You Stick Vein, Article States

The hazard to patients from the "human factor" in blood transfusions is dramatically presented in an unusual advertisement in a recent issue of the *Texas State Journal of Medicine*.

"This One Will Kill You" is the heading for the ad, placed by the Texas Society of Pathologists. The copy warns:

"The human factor is killing your patients. Over 3,000 people died in 1953 from blood transfusions of the wrong blood. More deaths from blood transfusions than from appendicitis, more than from all anesthesia. The wrong blood—the right patient; the right blood—the wrong patient. Why was the wrong bottle used?

"Studies show that less than 10% of the mistakes were due to technical inaccuracies in the laboratory. Over 90% were due to the *human* element—the Hu factor. The blood type and group were matched carefully, then someone used the wrong pint. The technologist issued the wrong bottle, or the nurse went to the wrong room, the intern didn't check the name tag, the attending physician didn't make sure of the label. *Read the label before you stick that vein!*

"Yes, our science is ahead of us. And this in the face of more blood being used. Unnecessary transfusions may spell death. One medical audit study of the abuse of transfusions showed one-third to be in error—given without sufficient indication or not given when indicated.

"Blood is now being given at the rate of 10 pints per hospital bed per year—and this is going up. This isn't necessarily a bad sign, but it means we must be alert to dangers. Blood banks that keep a careful check show a five percent reaction rate—major and minor reactions.

BEWARE AND BE AWARE

"1. Give blood for serious need only. ASK YOURSELF—is this pint necessary?

"2. Don't order blood as a 'little spring tonic'—for minor indications. It is not only potentially dangerous but is an 'expensive meal.'

"3. Support strict blood bank regulations and these will support the life of your patient.

"4. Personally check the label of the blood for your patient.

"5. Give blood before and after surgery—not during surgery (except for real emergency). 'Remember — the life that the wrong blood takes may be your own!'"

Now 2 Polysal®s

FOR I. V. THERAPY

The addition of a new Polysal now provides balanced electrolyte solutions for both replacement and maintenance.

For REPLACEMENT

Polysal

(REGULAR)

Balanced in terms of plasma electrolyte content, this high sodium solution is ideal in the treatment of dehydrated and depleted patients by replacing lost sodium and affecting *immediate* improvement in blood volume and circulatory status.

Write for literature

SINCE CUTTER 1897

Simplify for Safety with

Polysal & Polysal-M

CUTTER LABORATORIES, Berkeley, California

*Talbot, N. B., Crawford, J. D., and Butler, A. M., "Homeostatic Limits to Safe Parenteral Therapy." New Engl. J. Med., 248, 1100 (1953).

For MAINTENANCE*

Polysal M

Balanced in terms of daily body needs for electrolytes, carbohydrates and water, this *Maintenance* solution is ideal for patients whose oral intake of food and water is restricted.

Polysal-M prevents the development of serious deficits which may occur in patients needing prolonged I.V. therapy by supplying the daily requirements in *safe amounts.*

"SAW-TOOTH" Effect Eliminated

This single solution delivers a smooth, uniform infusion, free from sharp peaks caused by daily infusion of several different-type solutions – thus preventing over-loading, water intoxication, edema formation.

East Texas AORN Group Names New Officers

Election of officers occupied most of the time at the first annual meeting of the East Texas AORN group, held at the Blackstone Hotel, Tyler, Tex. Seated (l. to r.): Miss A. Brown, Mrs. I. Barnes, Mrs. M. Drennan, Mrs. K. DePamphilis, Mrs. D. Pickering, Miss M. Malone, and Miss Mavis Pate, ORS, Medical Center Hospital, Tyler, president. Standing (l. to r.): Mrs. D. Hodges, secretary-treasurer, Miss McAdams, Mrs. M. Howard, Sister Mary Roselle, Mrs. Blasing, Miss Sims, Mrs. M. Manson, Mrs. Bryant and Sister Mary Domicille, Mother Frances Hospital, Tyler, program chairman. Mrs. Fleming, who was appointed vice-president of the group, is not pictured.

Dangers In Surgical Suite Air-Conditioning

By R. A. Phelps, Hospital Engineer

Because air-borne contamination is a vital problem in many hospitals today, HOSPITAL TOPICS is reprinting here an excellent article from Volume I of the O. R. YEARBOOK, now out of print. The information in the article is as timely as it was when it first appeared, seven years ago.

THE NEED for air conditioning, especially in the operating and anesthetization rooms, is generally recognized. The only known protection against possible explosions, where explosive anesthetics are used, is the complete and thorough grounding of floors and equipment and the maintenance of temperatures from 75 to 80° and humidity of 50 to 55 percent which will reduce the possibility of static electric discharges.

Only air-conditioning equipment can maintain this control of temperature and humidity, however, it must be recognized that air-conditioning may be extremely dangerous to the patient in these rooms.

Modern hospital construction provides walls and floors which are impervious and can be made clean and sanitary. All equipment used can be cleaned easily. The instruments used and the gloves and clothing of the personnel are thoroughly sterilized. Every known precaution is taken to protect the patient from infection. Then air-conditioning injects into this sterile atmosphere a volume of moist air under pressure, which permeates every nook and corner and is forced deep into the open incisions of the patients. This air may carry with it minute particles of dust which are highly contaminated. Nothing except the rubber gloves of the surgeon and the instruments he uses is as dangerous. The gloves and instruments are thoroughly sterilized, but what is done about this other danger?

An air-conditioning unit consists of: an intake where the outside air is drawn in; a set of filters which are simply fine screens, to take out the dust and dirt from the incoming air; an air washer which further cleans the air; refrigeration coils which cool the air if necessary; heating coils which raise the temperature when this is required; the impeller blades of the fan, which draw the air through the intake and force it into the discharge ducts; the humidifier, which atomizes water into the discharge air to raise the humidity, if necessary; and the discharge duct with vanes, dampers, and ports which conduct, control, and discharge the air into the rooms.

None of this equipment is sterile. In fact, though the equipment may be reasonably clean when installed, it will soon become dirty, whether it is in use or standing idle, and there is no way it can be cleaned.

Assuming that the filters and air washers have cleaned the air, there are still two possible sources of contamination in the equipment. All machinery must be lubricated, and some of the lubricating oil will be volatilized into the air stream. Far more dangerous is the water used in the washer and in the humidifier. The author knows of no installation where sterile oil or water is used, yet both are injected into the air being forced into the previously sterile atmosphere of the operating room. Still other dangers may exist in the air-conditioning equipment.

CASE CITED

These dangers were forcefully brought to my attention during an inspection of a TB hospital, in which sanitation and aseptic technics were rigidly enforced. The staff was very proud of the hospital's record of practically no postoperative infections.

A new air-conditioning unit had been installed to serve the surgical suite, including operating rooms, anesthetization room, sterilizing room, nurses' work room, and postoperative ward. This suite and the air-conditioning equipment room are located on the top floor of the building. The air intake is located in the exterior wall of the building, above the roof of the lower floors.

As this hospital is a single building unit, it has an integral boiler house with a smokestack extending above the roof over the operating suite. The air intake was placed as far away from this stack as possible.

The intake duct and the housing for the air-conditioning equipment were constructed of galvanized iron, but due to the fact that the discharge ducts were concealed in walls and ceiling, copper was used for these ducts, to give longer life, as it was thought the copper would not be corroded by the warm, moist air this duct would transport.

The air-conditioning equipment was completed and put into operation at a time when the outside temperature was high, but the humidity was also high, so only the cooling equipment was used.

A very few days after this equipment was put into operation, infections developed in postoperative cases. The new equipment was suspected as being the source of this infection.

A careful examination of the operating room revealed that very minute particles of a black substance were being discharged into the room. A microscopic examination of these particles showed that they were highly contaminated. The air-conditioning unit was immediately shut down and a thorough search made for the source.

It was then discovered that the filters provided for the air intake were not the full size of the intake duct, and some air was passing around the filters, carrying with it the soot from the smokestack. Larger filters were provided and the unit again put in service. No more soot was noted and for a time there were no more infections.

The exterior humidity dropped and the humidifiers were placed in operation. Within a few days more infections developed. Again the air-conditioning equipment was suspected, and an investigation showed that

greenish blue particles were being discharged into the room. These also proved to be highly contaminated when placed under the microscope. The intake and all parts of the mechanical equipment were examined in vain to find the source of the new contamination.

At the time of the writer's visit, the servicemen were cutting into the concealed copper discharge duct, as the last possible source of the trouble. When this was opened it was found that the entire interior surface of the copper duct was coated with a greenish blue substance which flaked off in minute particles when disturbed.

Upon being shown the condition of this duct, the author requested to see a chemical analysis of the water used in the humidifier. As this water was taken from the domestic water mains of the city, famous for its water, this analysis was readily obtainable from the city water company. This city obtains its water from four deep wells, widely separated. Analysis of water from each well was obtained and of a composite sample taken from a main. Analysis of the individual wells showed that in the two located nearest to the hospital, sulphates exceeded 100 parts per million.

The cause of the contamination was then easily read. The sulphates in the water contained in the warm, humid air stream were reacting with the copper of the duct to form copper sulphate ($CuSo_4 \cdot 5H_2O$), commonly known as Blue Vitrol. This poisonous substance was the greenish blue particles discharged into the operating room, and into the open incisions of the patients.

From this it can readily be seen that nothing can be taken for granted in air-conditioning. Here a widely advertised city water became a dangerous contaminating agent. Air-conditioning cannot be purchased "off the shelf" as can a domestic refrigerator, but must be carefully engineered in design and construction. Nothing can be assumed, but all elements must be carefully studied by a competent engineer and every precaution taken in the construction to reduce the ever-present danger of contamination from air-conditioning equipment installed in hospital surgical suites.

Postoperative Infection from Air-Borne Contamination

Abstract of a paper, "Postoperative Wound Infection," by R. A. Shooter, M.D.; Gerard W. Taylor, M.S., F.R.C.S.; George Ellis, M.R.C.S., F.F.A.R.C.S.; and Sir James Paterson Ross, K.C.V.O., M.S., F.R.C.S.; from the department of bacteriology and the surgical professional unit, St. Bartholomew's Hospital, London, England. The complete article appeared in Surgery, Gynecology and Obstetrics *103:257 (September, 1956).*

• A steady increase in wound infections over a two-year period at St. Bartholomew's Hospital in London made a thorough investigation of possible causes imperative.

Operating room technics were critically surveyed. Once their validity had been established, they were rigidly adhered to while other possible sources of infection were sought. Additional burden was created because many of the infections were due to antibiotic-resistant staphylococcus, which has been causing similar difficulties in other surgical environments, despite prophylactic and supportive chemotherapy.

Previous investigators had suggested the air-borne route for spreading infection. The skin of carriers had also been considered as a source of infection—contaminants leaking into wounds through punctured gloves.

Cultures were made of wounds, noses, hands, arms, gloves, and floor dust from wards, corridors, and operating rooms. In a four-month period, 26 different types of staphylococci were identified — 11 different types occurring in 17 septic wounds. The authors therefore concluded it was impossible for any one surgeon or nurse to be a principal carrier.

Bacterial counts then were taken of five cubic feet of air in the operating room. On two occasions, outside air was cultured. In both instances, results were lower than 25 percent of the count obtained simultaneously in the operating room.

Previous studies in the hospital had shown the ward air to be heavily contaminated with pathogenic staphylococcus. It was suspected that infection might have been beginning either in the wards or the operating room, since identical types of staphylococci were isolated in both areas.

However, because infection started immediately after surgery and always involved deeper tissue layers, it was finally concluded that contamination must be occurring during surgery. After other aspects of aseptic technic had been shown to be free of contamination, attention was concentrated on room ventilation.

The operating room during the time of the study was ventilated with outdoor air, filtered and blown in through an opening located close to the floor. It was passed over steam-heated pipes for auxiliary heating. Several other openings were located in the wall around the room, and air was exhausted through these openings with the help of an exhaust fan on the roof. Even when this fan was idle, circulation continued in the exhaust ducts because of convection currents of the warm air.

Using titanium chloride smoke clouds, the authors were able to demonstrate that no matter what alterations were made in the ventilation, "air was constantly sucked under the doors into the operating room from the passage outside." It was also fairly certain that the operating room was receiving a steady stream of air from the wards, despite the 90 feet of connecting corridor.

First steps for correcting the ventilation included blocking off the exhaust ducts, removing the filters, and increasing the capacity of the air supply fan. In this way, air was blown out to the corridors instead of being sucked into the operating room from the former. With this simple change, bacterial counts of the air dropped 50 percent, on the average, and wound infection rates dropped from the previous nine percent (37/427) to one percent (5/500).

One infection in the latter series developed in an amputation performed on a particularly cold day when the air supply was decreased to avoid undue chilling of the patient. Bacterial counts of the room air done at the time the fan was shut off were identical to those existing when the infection rate was at its peak.

Reductions in wound infections definitely coincided with the improvement in ventilating system. Contamination of instruments, towels, solution basins, etc., by the air-borne route can be as significantly disastrous

(Continued on next page)

as direct contamination of the wound.

In addition to positive-pressure ventilation, the authors advise cross-currents of air to prevent a settling out of bacteria from the still center or vortex of a rotating mass of air.

Temperature control is also important in the management of air-borne contamination, inasmuch as bacteria from surrounding areas will be sucked into the operating room despite adequate ventilation, if the temperature in that room is higher than that of neighboring areas. The authors urge the use of smoke to demonstrate the adequacy of ventilation.

Air-borne contamination should not be seized upon as the immediate cause of postoperative sepsis, but should be considered as a major possibility, once scrupulous aseptic technic has been demonstrated.

Eliminating Air-Borne Bacteria With Humidity Conditioning

● Bacteria-free air can now be delivered to critical areas in a hospital—delivery rooms, isolation wards, and operating rooms.

When air supply can be controlled, it appears possible to eliminate the hazard of air-borne organisms by chemical humidity conditioning, according to findings reported recently by the Research Foundation of the University of Toledo.

The discovery that this conditioning removes bacteria as well as moisture from the air will be a new tool in the endless fight against air-borne infection.

A report, prepared by Drs. Archie N. Solberg and Harold C. Shaffer (published in the *Ohio Journal of Science*, September, 1956), says that tests showed that 97 percent or more of air-borne bacteria were removed by the humidity conditioner. Pathogenic organisms were eliminated as effectively as others.

Parallel tests, the report further declared, showed that "dehumidifying systems employing only refrigeration could increase the number of micro-organisms in the air by providing on the refrigeration coils a suitable medium for the growth of micro-organisms and their release into the air."

The humidity conditioner* was developed primarily for maintaining exact moisture content in air for various industrial and commercial processes.

The authors, in their report, assume that the solution of lithium chloride and water in the humidity conditioner may be the key to the removal of bacteria. Aqueous solutions of lithium chloride absorb moisture from the air as it cools—absorption being increased with the rate of cooling.

Bacterial counts in tests conducted by Dr. Solberg and Dr. Shaffer were almost identical using a newly developed "impinger" and a previously developed electrostatic air sampler. Both methods were found to be 99 percent efficient.

Chemical humidity air-conditioning is potentially a valuable aid in the prevention of air-borne infection in hospital operating rooms, nurseries, isolation wards, etc. An extremely low bacterial count in air, vital to safe patient care, is possible with these controls.

The unit itself contains only two moving parts—the pump spraying the solution over the incoming air and the pump handling the regenerating process. Maintenance of the equipment requires no technical skill other than that employed for routine care of institutional equipment. Checking the level of the lithium chloride solution in the pump at regular intervals is necessary. This can be done by any employee.

There is no carry-over of vapors of the lithium chloride into the treated air, and the humidity conditioner enhances physical comfort by holding moisture in the air to a tolerable proportion.

Conventional air-conditioning equipment operates more efficiently when run in conjunction with the chemical humidity conditioner, in that the usual frosting of cooling coils is averted and interrupted operation for defrosting eliminated.—*Dorothy W. Errera, R.N.*

*Kathabar, manufactured by the Surface Combustion Corp., Toledo, O.

SELECTED BIBLIOGRAPHY

Further information on postoperative wound infection and air-borne contamination may be found in the following articles, which are abstracted here for the convenience of our readers.

An annotated bibliography on a specific subject will be a regular feature of HOSPITAL TOPICS from this month on. If you have any suggestions for subjects, please send them in.—THE EDITORS.

Lowbury, E. J. L. "Cross-Infection of Wounds with Antibiotic-Resistant Organisms." *Brit. M. J.* 2:985; April '55.

Perfunctory asepsis excused on the grounds of availability of antibiotics has resulted in a frustration of chemotherapy and a spread of resistant organisms among staff and patients. In surgery, the problem is particularly evident, because the wound-infecting organisms include some outstandingly resistant to chemotherapy and some which are relatively insensitive to all current agents.

Multiple factors contribute to the spread of infection: nursing care, sterilization of equipment, wet dressings, nasal and skin infections, and excessive activity in the operating room. The spread of bacteria by air routes can be minimized by use of positive-pressure ventilation with filtered air in operating rooms and dressing stations.

Sevitt, S. "Gas Gangrene Infection in an Operating Theatre." *Lancet* 2:1121; November '53.

Subsequent infection with Cl. welchii of an open reduction of a fractured ankle led to a thorough investigation of the possible source of the organism. Since the original fracture was closed, with the skin clean and intact, it was assumed that the infecting organism came from another source. Cultures of routine materials used were negative, but the air in the operating suite was heavily contaminated with dust-bearing spores of Cl. welchii.

The suite was located on the top floor of a four-story building, and ventilation was accomplished with two power-driven exhaust fans. With the ventilation running it was found that the air of the operating suite was filled with dust from the main corridor of the operating room, elevator shafts, stairwells, and other parts of the hospital.

The upward drafts towards the vents also sucked dust from the floor into the air, so that every wound made in the operating suite equipped with this type of ventilation was exposed to floor bacteria, including the common Cl. welchii brought in on street shoes.

Taylor, J. "Recirculating Conditioned Air in the Operating Room." *Hospitals* 29:98; May 1955.

In a 100-bed hospital utilizing its air-conditioning equipment eight hours daily on a year-round basis, it was estimated that $1,500 could be saved annually by recirculating 60 percent of the air, in addition to the initial saving in purchase of equipment.

The use of activated carbon filters is recommended to control offensive odors and concentrations of anesthetic gases. Humidity control and mechanical filters are recommended to control bacterial contamination of the air.

Yow, Ellard M. "Clinical Significance of Rising Incidence of Infection Due to Gram-Negative Bacilli." *Postgraduate Medicine* 17:413; 1955.

Prophylactic antibiotic therapy results in suppression of bacterial antagonists with an increase in infections. Wound infections due to gram-negative bacilli are seen more often, and specific antibiotic therapy is recommended to prevent and correct these infections and avoid alterations of the patient's ability to withstand invasion by infective agents.

Edwards, C. R., McGrady, C. W., Jr., and Funk, A. M. "The Effects of Air-Conditioning on Operating Room Air Contamination." *The American Surgeon* 21:189; 1955.

In an operating room performing 15 to 20 various cases per day, cultures were taken on open petri dishes at various heights and at various locations before air-conditioning equipment was installed and two weeks after installation. Highest counts were obtained in the afternoon, unless the operating schedule ended early in the day. Rooms located close to offices and the rest of the hospital had the highest counts.

A 53 percent reduction was found in post-air-conditioning studies. There was no significant difference between cultures obtained at various distances from the floor.

Blowers, R., Mason, G. A., Wallace, K. R., and Walton, M. "Control of Wound Infection in a Thoracic Surgery Unit." *Lancet* 2:786; October '55.

In a chest surgery unit, the infection of wounds, including intrathoracic spaces with penicillin-resistant staphylococcus aureus, became so frequent that the unit was closed. Investigation of patients and staff revealed a high incidence of nose and skin carriers of the responsible organisms. Cultures of air and dust in the wards and corridors revealed contamination with the staph. aureus.

It was felt that the situation existed because infected patients were not isolated and blankets were unsterilized. Heavy contamination of the air in the operating suite was believed to be the result of inefficient ventilation, the use of blankets in the suite, and excessive activity on the part of the staff. Conclusions were that the greatest number of infections occurred at operation and that the infecting organism was air-borne.

Corrective measures resulted in a drop in the infection rate, from 10.9 to 3.9 percent. The staph. aureus rate among patients and staff dropped from 74 to 37 percent. It is felt that infections cannot be prevented by liberal antibiotic therapy and that scrupulous aseptic technic is essential for patient safety.

Blowers, Robert, and Wallace, K. R. "The Sterilization of Blankets with Cetyl Trimethylamine Bromide." *Lancet* 1:1250; June '55.

It is recognized that hospital blankets are a reservoir of pathogenic organisms because routine low-temperature washing technics are inadequate and autoclaving is destructive. Oiling technics reduce dissemination of lint but are difficult to apply, give the blankets an unpleasant texture, and are seldom bacteriostatic.

Routine laundering technics, employing a quaternary ammonium compound, are shown to result in bacteria-free blankets which retain a bacteriostatic action. Care must be taken to avoid the use of soaps or anionic detergents in the laundering process which neutralize the bactericidal properties of the quaternary ammonium compounds.

Advocates Psychological Preparation of Hospital Patients

Many persons still require psychological preparation to accept medical and surgical care, Milton Rosenbaum, M.D., professor and chairman, department of psychiatry, Albert Einstein College of Medicine, New York City, told an Illinois audience recently.

Dr. Rosenbaum spoke on "Psychological Preparation of the Individual for Medical and Surgical Care," at the North Shore Health Resort's annual lecture series, Winnetka, Ill.

A recent survey indicated that 42 percent of the patients studied deliberately delayed seeking proper care, he said. The study took into account the following conscious and unconscious determinants: fear of punishment or death from surgery; overcompensation for dependent needs, and shame.

Most patients expect considerably more pain or mutilation than would normally result, the psychiatrist said.

Dr. Rosenbaum gave these general emotional reactions of individuals to physical illness; anxiety; regressions and unconscious fears of fantasies; self-centeredness; retirement and withdrawal; selfish and demanding behaviorisms and preoccupation with basic and primitive bodily functions.

Psychological problems relating to preparation of an individual for medical and surgical care depend primarily on three factors, either alone or in combination.

According to Dr. Rosenbaum, these are inner personal or psychic conflicts, external personal or culturally induced conflicts, and conflicts created by physicians' attitudes and behavior.

People with different backgrounds have different attitures towards illness and treatment, Dr. Rosenbaum emphasized, and doctors must exercise a high degree of sensitivity to patients' socio-economic needs.

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Speakers Announced for 'Disaster Day' Program

The complete list of speakers for the "Disaster Day" program, to be presented Monday afternoon, February 18, at the fourth national congress, Association of Operating Room Nurses, Los Angeles, is as follows:

Moderator: Idalia P. Chestnut, R.N., nurse coordinator, health services division, Los Angeles Civil Defense, "The Operating Room Nurse Looks at Civil Defense."

Col. Richard F. Lynch, Los Angeles director of civil defense, "The Organization of the Los Angeles Civil Defense."

Col. Melville I. Stark, chief of operations and planning, City of Los Angeles, "How a Civil Defense Organization Functions."

Robert M. Colbert, M.D., chief deputy director, health services division, City of Los Angeles, "A Plan for Health Services in Disaster."

Capt. H. A. Johnson, MC, USN, Field Medical Services Marine Corps Base, Camp Pendleton, Calif., "Emergency Care Saves Lives."

Avis L. Axelson, R.N., nurse consultant, California Division of Medical and Health Services, "You Are Needed in Civil Defense."

Committee Member Takes New Job

Janie Krause, R.N., member of the National Conference Planning Committee, formerly at the University of Minnesota Hospitals, is now operating supervisor, St. John's Hospital, St. Paul, Minn. She was incorrectly identified in the January issue as operating room supervisor at the University of Minnesota Hospitals.

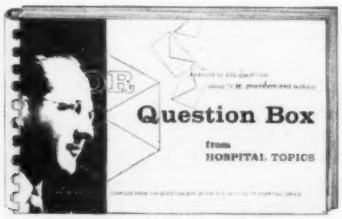
Additional AORN Speakers

Betty M. Haugen, R.N., operating room supervisor, VA Hospital, Portland, Ore., will speak on an in-service program for professional and auxiliary personnel.

Col. Richard F. Lynch, Los Angeles director of civil defense, will tell about the city's CD organization at the "Disaster Day" session on the first day of the meeting.

James E. Ludlam, Los Angeles attorney who is legal counsel for the California Hospital Association, will talk on "The Need for Malpractice Insurance for Operating Room Nurses."

NEW



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O.B., Central Supply Nurses Invited to AORN Sessions

Registered nurses from the obstetrical and central supply departments are invited to attend the fourth national congress, Association of Operating Room Nurses.

Many topics on the program will be of interest to these departments, said Edith Dee Hall, R.N., chairman, National Conference Planning Committee.

Nurses will be admitted upon payment of the usual registration fee of $3, Miss Hall said. Student nurses will be admitted free.

Development Program for the O.R.S.

By Jerry E. Walsh*

Because new personnel coming into the operating room are always requesting information on training for supervision, we are reprinting here what we consider one of the best articles we have published on the subject. It originally appeared in the June, 1952 issue of HOSPITAL TOPICS.—THE EDITORS.

● At the present time there seems to be a very acute shortage of well-trained operating room supervisors. Frequently, while calling on hospitals, we are asked the question, "Where can I get a good operating room supervisor?" This question provoked some thinking.

In industry it has long been a practice to organize a program for upgrading of personnel to fill the role of management. This is possible only when the correct viewpoint and attitude are arrived at on the part of the operating room supervisor. Industry's thinking follows along these lines: Those in management should be basically competent. To the extent they are competent, they feel secure. Feeling secure, they do not fear anyone taking their jobs. In fact, they are hoping someone will in order to free them to take a better job.

If we can use this basic philosophy as the motivating concept, how might we apply it in hospitals and in the nursing profession, and what benefits might we expect? I think it reasonable to assume it might accomplish the following:

(1) Raise the standards of the operating room supervisor's job to that of an operating room administrator.

(2) Fill a vital need for competently trained operating room supervisors.

(3) Assist in the over-all nurse recruitment program.

(4) Make for better integration between the nursing department, administration, the operating room, central supply, general stores, and admitting.

(5) Improve patient care through improved efficiency and service.

How might we set about to accomplish these broad objectives? First and foremost, to do a job, we must know what the job is we are to do. Therefore, what more logical starting place than a written job description.

a. For the operating room supervisor
b. For her assistant (development candidate)
c. For head nurses
d. For graduate nurses
e. For student nurses
f. For nursing aide personnel
g. For orderlies

*Jerry E. Walsh is metropolitan division manager, Ethicon, Inc.

The job description is vital. There are many ways of developing a good job description. One is to have the individual person write up her own, asking her to include all of the responsibilities which she believes to be hers. A discussion of these duties would be very helpful in future supervision. The administrator and/or the director of nurses might be enlisted to analyze, with the operating room supervisor, each job description and to rewrite it in the most concise and complete form possible.

When the finished product is in the hands of each member of the department, a department meeting should be held. The supervisor should then be sure that everyone understands and agrees to the responsibilities set forth therein. This will be accomplished more easily if we can make them realize they had a voice in making the job description. Supervising any job in which the scope of duties was contributed by those who must perform them will be much easier.

JOB RATING

A job rating form, based on the job description performance, should then be made up. This form should rate each aspect of job performance, e.g., a girl might be doing an exceptional job of setting up for a case, and a very poor job in cleaning up after a case. The rating form will clearly indicate her proficiencies and weaknesses.

Everyone doing a job has a right to know how he is getting along on that job. How can we expect people to meet our standards when they don't know what our standards are? When they know what our standards are, and that they are being measured against standards and not whims of personality, they will perform better. The rating form then becomes a useful tool for constructive criticism and guidance and makes for improved job performance.

Since upgrading is our objective, make the understudy aware of your scope of responsibilities, and frequently rate her against your job standards. When people know that supervision has a purpose behind it, they respect and respond to it with greater willingness and zeal.

Rating calls for a high degree of objectivity. Emotion, personalities, and friendships have no place in an honest rating. The rating is as much a judgment of the rater, as it is of the one being rated. If we let personalities enter into our judgments and rate poor or good, and the job performance belies our rating, we have only fooled ourselves and demonstrated poor judgment. Having established the job description and performance rating, we have two vital keys to supervision.

The operating room supervisor should counsel with each member of her staff after a rating has been made,

(Continued on next page)

pointing out those areas of the work in which they particularly excelled, and those areas in which their performance was substandard. People take an interest in themselves when they know you take an interest in them. Interest in them implies a willingness to listen to their viewpoints.

In counseling, adopt the attitude that will lead to free response by the one being counseled. If we make counseling a two-way conversation, we will learn many of the things that prompt actions—good or bad.

LEARNING IS ACTION

Learning is action. It comes from within and by doing. Telling a person, no matter how well you may tell him, seldom teaches very much. Specific assignments in supervision, properly delegated by you, are a starting place for the development of an understudy. When you delegate responsibility, you must also delegate authority. And remember, though you delegate the authority, you may never fully give it away. You must expect a high level of performance and hold your assistant accountable to you for it. To the extent that she knows your performance standards are high, so will she respond.

Making mistakes is an inevitable consequence of learning. Your instructions must be clear and to the point to minimize the opportunities for error. When mistakes are made, you should determine why, and counsel at that time will accelerate the learning program.

You must back up the authority you have vested in your assistant, and follow the chain of command. You can ill afford to give an assistant responsibilities and authority and then go over her head.

Going back to the part that attitude and viewpoint play in such a program, let us consider your job as you know it today. There is no doubt that time does not permit you to accomplish many of your objectives. The one common denominator that every living mortal possesses, whether he be president, king, doctor, or beggar, is that there are only 24 hours in a day. It is utilization of these 24 hours with the proper motivation based on correct attitudes and viewpoints that makes one man a success, while another is a failure.

If we take the attitude, "Why should I train someone to take my job?", we'll not be very likely to do anything very constructive in developing an understudy. On the other hand, if we adopt the viewpoint that the sooner I have someone ready to step into my shoes, the sooner I will be ready to take a bigger job, we begin to grow and to think as an administrator.

Take your own hospital as an example. The wise administrator surrounds himself with competent department heads—men and women who know more about their specific jobs than he does. Does he consider this a threat to his security? Not by a long shot. In fact, that is what makes his security.

In developing an understudy, there are four basic steps that must be taken:

1. Selection
2. Orientation
3. Job training
4. Supervision

SELECTION

In industry the person is hired for the job. Each job requires different talents, characteristics, abilities, and motivations.

If you have followed the suggestions of developing a job description, it can be helpful in giving you an insight into the type of person who must fill that job. If the nursing department, through the director of nurses, will give you the opportunity to have a voice in the girls selected for the operating room, you will develop a better nucleus from which to pick a trainee.

In your selection, use the yardstick of the job description. Take into account the competence of the person and her attitude towards supervision and direction, because you cannot build on someone who has no desire to succeed.

An audit of existing nursing personnel, measured against the standards set forth in the job description, will point up the likely candidates for upgrading consideration. In considering a person for the role of understudy, in addition to the basic requirements of the job description, let's look into attitudes. How well does she get along with her fellow workers? Is she a trouble-maker? Is she an easy mark? Does she have the poise and respect of all who work with her? How well does she measure up in these categories?

In addition to the attitudes, let's determine concretely:

(1) Suitable motivation for the job. The applicant's need for, or interest in, this particular job. Will she work hard, or just go through the motions? If her incentives for the job are strong, she will stick to the job. If her desires are weak, her work will be weak. Furthermore, is her motivation temporary in nature? Is it easily satisfied, or is it wholesome? The degree of motivation should be carefully considered. Is it just enough, sufficient, weak, or apparently nonexistent?

(2) Qualifications of leadership. To manage others, we first must be able to manage ourselves. How well has the candidate demonstrated self-reliance? Is she a self-starter? Do others on her own level come to her for advice and guidance? Demonstrated leadership of this type is of the highest order. How much dependability has the candidate demonstrated? How much prodding has been necessary when assignments were given her? Does she accept the consequences of her actions? Is she basically truthful and straightforward, or does she pass the buck for her failures and mistakes?

These basic qualifications have been touched on before lightly. You can, I am sure, develop them to a much fuller extent than I have attempted to do here.

In selection, and again I am using the yardstick of the job description, the operating room supervisor should seek permission from, and the cooperation of, the hospital administrator and the director of nurses to give her a voice in choosing all operating room personnel, both nursing and nonprofessional.

When you have the authority to select people, you, yourself are being tested in the areas of judgment, analysis, imagination, etc. This will serve to develop and broaden your own scope of administrative ability.

As a guide in selecting, a rule that has proved rather

sound through the years is: "The most reliable indication of what a person will do is an accurate knowledge of what he has done in the past." Such things as, was she pampered as a child, lazy at home or in school, etc., indicate a lazy habit has been developed and will follow in her work. Does she finish projects she starts?

INTERVIEWING

In recruiting, the interview is a very important factor. After the initial screening, when we settle down to those few from whom we are going to make our final selection, we should arrange to interview in private. There are basic requisites for good interviewing:

(1) Put the candidate at ease. Make her as comfortable and as relaxed as possible.

(2) Develop an objective viewpoint. All executives like to consider themselves as impartial judges of others, and, with a little effort, can approach a fair-minded appraisal of personalities. There is, however, one big danger in interviewing, and that is the distortion of impressions, arising out of emotional likes and dislikes. To be aware of this, we must recognize our own biases, opinions, and prejudices. For example, Mary dislikes people with Polish names, because ten years ago a girl with a Polish name stole her best boy friend. These emotional influences are part of our heritage. They warp our judgment, and unless we consciously try to neutralize our personal biases, we will hire the unqualified, and frequently reject those best qualified.

In interviewing it is equally important that you show no evidence of tension. For if you are tense, you will transmit it to the candidate and weaken your own effectiveness. Assume a polite, friendly, and business-like attitude. The amount of time necessary in interviewing will depend on many factors: The number of candidates you see, the quality of the candidates, and the number of qualified candidates. A word of caution about haste: It is better to make no selection, than a poor selection.

The health of the person considered is very important. Has she the stamina for the job? How much time did she lose because of illness in the last year?

When interviewing, make a written record of your impressions. Verify these at a later time, and on a second interview, look for any of the doubtful notations you had made on your initial interview.

In recruiting personnel, careful screening will pay real dividends. The right people, with the right motivation and the correct attitudes, are the nucleus for building a sound department, and by so doing, you are building your own job to that of an administrator.

ORIENTATION

Orientation is an adjustment period to new people, new work conditions, new technics, and new surroundings. It is a formative stage where direction is imperative. It is also an explanatory phase. You should clarify such things as: the policies of your hospital and your department, the working hours, pay day and method of payment, your training program, etc. It is a period of personal introduction to all members of the department, their names, titles, and responsibilities.

Since people can be expected to remember only so much in a given time, the orientation period should be spread over several weeks or months as indicated. The supervisor should make up an orientation check list to include all the details of orientation. The list should be flexible enough to provide for the orientation assignments for the first day or week, the second week, third week, etc. This will assure the supervisor that she has not overlooked anything.

The list should include provisions for questions asked by the one being oriented. A duplicate copy of the check list may be given to the trainee which will serve to give her an over-all look at her job and her surroundings, and prompt her to accelerate her own program.

A review of the full scope of the job description, and a period of working with you as an observer, will help greatly. Weekly or semiweekly conferences with the understudy, in which you review various actions and decisions which were made while she was observing, will help to accelerate her orientation program. Have her sit in on all meetings which you conduct. When the meeting has been adjourned, ask her to summarize it for you. In this way, you will be better equipped to counsel with her. Initial attitude on the job will prevail. Start her right. Job orientation can make or break the one being groomed. The adage that "As the twig is bent, so the tree will grow," could well be our motto during this period. The attitude that we display will likely be the pattern she will follow.

JOB TRAINING

Job training reached great heights during the last World War. Accelerated learning was a must. Many short-cuts were developed and many lessons were learned. Perhaps the biggest lesson learned in job training was to take nothing for granted.

A simple example of this was fitting a nut to a bolt. Everyone assumed that everyone knew how to perform this operation. Weeks or months later many machines in industry had to be stopped and new nuts and bolts attached. It was found that placing the flat surface of the nut on the bolt first secured it much tighter than when the procedure was reversed. Thereafter, everyone was taught why and showed how. Result: Fewer machines required servicing because of failure of the nut and bolt assembly.

Most operating room supervisors have developed and are using procedure manuals, covering the various surgical procedures — appendectomy, laparotomy, etc. These procedure manuals explain and visually show the kind and number of instruments, sutures, drapes, etc. being used. Visual prep charts serve as training aids.

Sterilizing procedure should be written and fully explained. The trainee may then be checked against known standards and has a ready reference at hand.

Weekly department meetings at which procedures are discussed, then performed and criticized, make for effective training. There is no substitute for doing, and when a competent, trained instructor supervises, pointing out mistakes and explaining why, fewer mistakes will be made.

In the operating room, where you are dealing with sterile procedure and where human life is generally at stake, anything less than a perfect job is a serious hazard. Here, too, the concept of right attitudes and viewpoints plays an important role. If there is a better way of doing something, even if it isn't our way,

(Continued on next page)

let's adopt it. It matters little who's right. It matters much what's right.

SUPERVISION

Supervision calls for a different set of talents and abilities than merely being a top-flight scrub nurse and head nurse. The human relations aspect of supervision cannot be overstressed. A good supervisor must be able to inspire confidence in the people she supervises. She must have a reputation for personal integrity and fair play, and possess the ability to organize and execute action on team level. In short, she must possess qualities of leadership.

Good supervision might be likened to holding mercury in your hand. If you squeeze too tightly it gets away from you; you hold it loosely, and you keep it intact. If you have established the right procedures and developed effective controls, there is no trick to holding the mercury.

Briefly clarify your position to all your people. Make known your standards of performance. Make sure they understand and agree to them. Then see that they comply with them.

Establish free rapport and encourage questions and counsel. Be a good listener. Learn to develop the traits of leadership that inspire confidence and a following.

The concept of patient benefit prevailing in the operating room will accelerate a greater willingness and respect for better technics and methods of job performance. The written job description and the employment of specific training assignments, with properly delegated responsibility and authority, will do much to develop an understudy rapidly.

If your selection was a good one, and your understudy has the right motivation and drive, if you work together, if you share common objectives, you can look for development and growth.

SUMMARY AND CONCLUSIONS

Our first goal was to raise the standards of the operating room supervisor's job to that of an administrator. If we have succeeded in convincing administration to give us the authority to recruit, orient, train, and develop personnel for the job of operating room supervisor, and if we have broadened our own scope of understanding to the point that we could achieve this, we have developed into administrative timber.

This program then successfully fills our second objective—filling the need for competent and trained operating room supervisors.

The third objective was to aid in the over-all nurse recruitment program. Many girls graduating from high school and college today who possess executive motivation would be attracted to operating room nursing, because with this program they would be afforded an opportunity to attain their goals.

Those attaining the job of operating room administrator will find themselves as department heads, sitting in on meetings with other department heads, and thus make for better integration of all hospital departments—our fourth goal.

Finally, through improved managerial know-how and better training, better patient care will result.

Ethylene Oxide Sterilization Practicable for Hospitals

By Carl W. Walter, M.D., Richard D. Castle, B.S.,

and Robert L. MacDonald, B.S.*

● Ethylene oxide has been used extensively in commerce and industry for the disinfection and disinfestation of materials destroyed by heat or moisture. Many instruments and supplies used in hospital practice are processed by ineffective expedient technics because the ethylene oxide process has not been perfected for random application, nor has equipment been engineered that is practicable in the hospital situation.

Refinement of instrumentation, introduction of biomechanical apparatus, and increasing use of alloplastic materials create a need for nondestructive preoperative sterilization. The growing hazard of environmental sepsis due to antibiotic-resistant organisms requires an economical means for terminal sterilization of all bedding. Ethylene oxide is practicable for these purposes.

Ethylene oxide (C_2H_4O) is a cyclic ether, the simplest of the epoxy compounds in which two carbon atoms are linked together in a three-membered ring. Ethylene oxide can be handled safely if the following principles are recognized:

(1) It is a flammable liquid (boiling point 51° F.) easily ignited with a flash point less than 0° F.

(2) Its vapor decomposes violently when exposed to certain temperatures and pressures.

(3) It is moderately toxic—the vapor *must not* be inhaled.

(4) It is very reactive chemically.

Liquid ethylene oxide is difficult to detonate; the vapor explodes when exposed to the usual ignitors. If heated to 1059° F., it will decompose in the absence of oxygen with detonating violence.

Ethylene oxide in the air irritates the eyes and nose. Exposure to low concentrates may result in delayed nausea and vomiting; high concentrations produce pulmonary edema. Permissible concentration for prolonged exposure is 100 p.p.m. Ethylene oxide does not accumulate in the body; hence, chronic poisoning does

*Dr. Walter is associate clinical professor of surgery, Harvard Medical School, Boston. Mr. Castle is chief engineer, Wilmot Castle Co., Rochester, N. Y., and Mr. MacDonald is in the company's Steroxide research department.

not occur. The liquid produces burns of the eyes and skin.

The fire hazards of using ethylene oxide as a microbicide are readily avoided by inerting the gas with carbon dioxide. Concentrations of ethylene oxide up to 20 percent in the latter lie outside the flammable range. Automation of the sterilizing cycle further reduces the hazard, eliminates the toxicity, and assures routinely effective microbicidal action.

The lethal action of ethylene oxide depends upon the interplay of five factors. First, the gas must contact the bacteria. Because the gas diffuses unpredictably, the air is initially evacuated from the sterilizer chamber and its load so that it can be replaced by the inerted ethylene oxide vapor.

Before this is done, distilled water is vaporized and permitted to permeate the load to provide a relative humidity of 25 to 50 percent—the second factor. During these steps, the chamber temperature is raised to accelerate the sterilizing action.

Temperatures ranging from 100° F. to 140° F. are a practicable third factor. The inerted ethylene oxide gas is then admitted.

A concentration of 760 mgm./L. is the fourth factor. The final factor is the exposure required under the conditions established within the load. This varies with the temperature, as can be determined from Figure 1.

This process is accomplished automatically in a new sterilizer.** The proper quantity of ethylene oxide for individual sterilizer loads is supplied in cylinders. A typical automatic cycle for hospital use runs as follows:

(1) The sterilizer is loaded with the temperature set for 140° F. and the exposure for three hours.

(2) An initial vacuum of 27 inches of mercury is drawn by an electric vane-type vacuum pump.

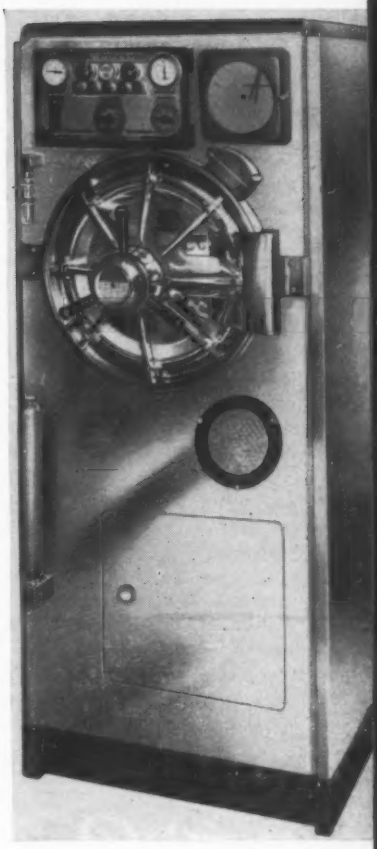

Figure 11. Ethylene oxide sterilizer designed for use in hospitals. Automation provides simplicity, safety and reliability in routine use. The sterilizer is self-contained, requiring only a 20-ampere electric supply and a vent to outdoors. The control panel is at the top next to a dual recorder for pressure and temperature. The glass jar below the controls contains the water for humidification. The box beneath the recorder is the safety interlock between the door and the control. The single-shot cylinder of inerted ethylene oxide is seen screwed into the socket at the lower left. The circular air intake filter is located at the lower right above a storage compartment for the Steroxide® gas cylinders.

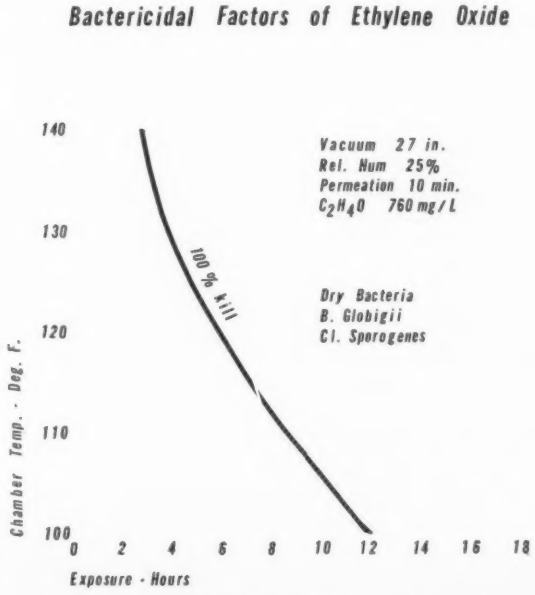

Figure 1. Bactericidal Factors of Ethylene Oxide.

(3) Distilled water is aspirated from a bottle containing a quantity determined by the volume of the chamber (1.2 ml./cu. ft.).

(4) A 10-minute period elapses while the water vapor permeates the load.

(5) Gas is admitted to the chamber from a cylinder containing 0.21 pounds of inerted ethylene oxide per cubic foot of sterilizer chamber. The chamber pressure reaches 25.7 psia.

(6) The sterilizing cycle is timed for three hours.

(7) The residual ethylene oxide is evacuated by drawing a 27-inch vacuum.

(8) Air, sterilized by filtration and exposure to ultraviolet radiation, is admitted to relieve the vacuum.

This technic permits hospitals to utilize the microbicidal properties of ethylene oxide routinely, safely, and conveniently for the sterilization of instruments and supplies deteriorated by steam.

Telescopic instruments, electric cords, rubber goods, thermoplastic materials, paper-wrapped packages, powders, mattresses, pillows, blankets, clothing, and shoes are examples of articles that can be advantageously sterilized by this method. The process deodorizes and leaves the articles free of residual chemical.

**Sterox-O-Matic gas sterilizer, Wilmot Castle Co.

First TOPICS Index: a Time-Saving Reference

● Looking for information on a specific subject—aseptic technic, sterilization, surgery? No longer will you have to go thumbing through back issues of HOSPITAL TOPICS, seeking an article that you remember seeing several months ago. TOPICS now has an annual index.

The first index, for the year 1956, appeared in the December 1956 issue. In case you didn't have a chance to look it over thoroughly, because of the holiday deluge of mail and rush of activities, we are reproducing on these pages a few of the sections of special interest to the operating room staff. For complete information, please see the December issue.

Not included here—because of the great number of entries—is the entire section on subjects covered in the "Question Box," the column in which your questions on operating room problems are answered by Carl W. Walter, M.D., assisted by Mrs. Dorothy W. Errera, R.N.

The index will be available as a separate reprint for those who wish to purchase an extra copy.

Anesthesia
effect of operative positions on vital signs during (Day) .....F 82
equipment, inexpensive "carry-all" (Gross) .....Ag 86
explosions, in operating room, grounding to control (Lorhan) (ab)....Je 31
52% of anesthetics given by trained personnel (Baird) (ab).....Jl 105
general, patient to leave under (Lundy) (ab) .....O 14
hypnotism safest method (Marmer) (ab) .....Jl 31
hypotension under, citric acid intoxication sign (Bunker) (ab)..O 95
in obstetrics (Pleasants) (ab).....Jl 93
International Anesthesia Research Society, 30th annual meeting, abstracts of papers .....Je 90
intubation, not advised for tonsillectomy in child (Gregg) (ab)....Jl 91
local, for cesarean section, etc. (Falls & Sheffery) (ab).....F 66
nitrous oxide-oxygen plus curare in aged (Heller & Watson) (ab)...Ja 13
obstetrical staff organization, evaluating (Hingson) (ab).....D 86
precautions in emergency ward patients (Graft) (ab).....Je 91
spinal, multiple autoclaving of drugs (Carter & others).....Ag 84
technic of giving vs. side factors (Garvin) (ab) .....S 84

Anesthesiology
VA residency program in.....Jl 9

Anesthetists
nurse, Joint Commission approves (Kerlikowske & others) (ab)....O 28
nurse, Southeastern Hospital Conference, abstracts of papers.....Jl 105
nurse, needed for private office surgery (Thomas) (ab).....Jl 105
nurse, more needed (Baird) (ab)..Jl 105

Aseptic Technic
symposium, (methods of practical approach) (Young) Ap 90, (application in the operating room) (Davis) 92, (application in central supply) (Dodge) 94, (in the post-doctorate program) (Walter) .....Ap 95

Association of Operating Room Nurses
Bakersfield area, Calif., new group.D 95
Boise group formed.....N 89
Chattanooga area .....Ag 83
Chicago group names officers.....F 81
Columbus, O. district group.....Jl 99
East Texas group organized.....My 95
4th annual conference, local planning committee for, in 1957..S 105, 106
4th annual conference; program announced (Hall) ....O 112, N 99, D 103
Montreal forms unit.....Ap 89
National Conference Planning Committee (Hall) .....Je 96
Pittsburgh chapter holds banquet...O 105
Sacramento group names officers....F 81
South Dakota organizes group.....F 77
3rd national conference.....Ja 88, Mr 10, (exhibit review) 51, 107; (from surgeon's view) (Webster & Coffey) 109; (scientific exhibit) 110; (meeting notes) 111; (report on delegates' meeting) 112; (candid camera quickies) 113

Meetings
how to improve your meetings (Hall) .....Ag 90

Operating Room: See also Surgery
air-conditioning of, explosive hazard? .....Jl 106
aseptic, methods of practical approach (Young) .....Ap 90
aseptic technic, application (Davis) Ap 92
conductive floor finish material for..Jl 106
explosions in, grounding to control (Lorhan) (ab) .....Je 31
institute at Ohio State U. Health Center .....Ja 86
orientation of nurse in (Hall).....F 85
problem clinic (Hall).....Ap 104, Je 96, Jl 108, Ag 90, S 117, O 112, N 97
program at International College of Surgeons' Congress .....Ag 89
routine after surgery on septic case .....My 108
student experience vital for future patient care (Hall) .....S 117
supervisor must take lead in good interpersonal relations (Hall)....N 97
supervisor's view on surgical technical aides in action (Vachula)...Je 92
surgical technical aides in action (Ginsberg) .....Je 92, (operating room supervisor) (Vachula) 92; (aide trainee) (Shepard) 94; (nurse trainee) (Alden) 94
team, should all members wear gown and gloves in septic case?.....My 108
use of technicians in, Oregon institute discusses .....My 105

Operating Room Nurses: See also Association of Operating Room Nurses
American College of Surgeons (Pennsylvania chapter) meets with.....Je 87
Heffernan (Kathleen J.) tells early experiences (Hall) .....Jl 108

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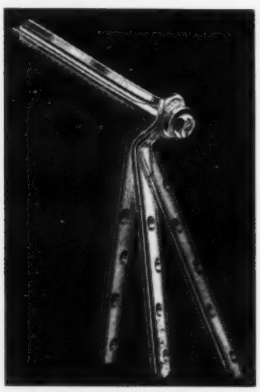

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Illinois Nurses' Association section meets jointly with International College of Surgeons .....O 109
Indiana workshop .....F 82
inservice training program for (Phillips) .....D 99
R. N. inservice program for O. R. graduate nurses (Hall).....Ap 104
urged to set up educational program (Prickett) (ab).....Jl 20

Shock
preparing patient in, to undergo surgery (Fitts) (ab) .....Ja 84
injured (ab) .....N 92
severe, in chest injuries, from anoxia (Samson) (ab) .....D 97
treatment, same in blunt or penetrating injury (Snyder) (ab)...D 98
injured (Howard) (ab).....N 92
treatment, plasma volume expanders (Rhoads, Howard) (ab).....N 94

Sterilization (Bacterial)
autoclaving ampules, results of British study (Whittet) (ab)....Ag 85
Heffernan (Kathleen J.) tells early experiences (Hall) .....Jl 108
multiple autoclaving of drugs used in spinal anesthesia (Carter & others) .....Ag 84
of catheters, drains and tubes (Errera & Walter).....Ag 93
seminar held in Harrisburg by Capitol Surgical Supply Co.....Ja 81

Surgery
blood volume measured often during operation (Westmuth & others) (ab) .....Je 91
collapse during, no cause (Zucker & others) (ab) .....O 96
debunks myths which hinder good surgical care (Moore) (ab).....Ja 83
effective leg-holding device aids prepping (MacCready) .....Je 88
emergency operation for children not necessary (Smith) (ab).....Jl 91
in children often emergencies (Koop) (ab) .....D 76
plastic and reconstructive, nursing opportunities in (Webster & others) .....S 110
plastic, rib cartilage to produce ear (Peer) (ab).....O 14
position during operation, effect on vital signs during anesthesia (Day) .....F 82
postoperative atelectasis and pneumonitis, role of anesthesia in prevention (Theye) (ab).....Ja 84
postoperative cardiopulmonary collapse, oxygen only temporary measure (Cullen) (ab).....Je 89
postoperative metabolism, role of hemorrhage (Moore & others) (ab) .....N 95
postoperative metabolism, testosterone derivatives effect (Gilder & others) (ab) .....N 95
preoperative caloric intake inadequate (Allende) (ab).....Ja 85
preoperative care, pre-tonsillectomy "party" prepares child.....My 55
preoperative preparation (thorough) needed for schizophrenic patient (Lesse) (ab) .....Je 90
radioactive cobalt in, halts bladder cancer metastases (Vermooten) (ab) .....O 15
risks, hypothermia reduces (Albert) (ab) .....Jl 33

TOPICS Reprints Shown at AORN

● Reprints of articles from the O.R. Section of HOSPITAL TOPICS will be displayed in the TOPICS booth at the fourth national congress, Association of Operating Room Nurses, Los Angeles, February 18-20.

Several articles have recently been added to the varied selection already available. All can be obtained for a small charge from HOSPITAL TOPICS, 30 W. Washington St., Chicago 2, Ill. The complete list now is as follows:

Aseptic Technic in the Postdoctorate Program—*Carl W. Walter, M.D.*
Planning and Managing the Recovery Room—*Eugene D. Rosenfeld, M.D.*
Nursing Opportunities in Plastic and Reconstructive Surgery—*Richard C. Webster, M.D.; Richard J. Coffey, M.D.; Virginia Rainville, R.N.; Muriel Dow, R.N.*, and *James A. Russell, APSA*
Development and Function of the Surgical Committee and Its Value to the Operating Room Nurse—*John P. Garrison*
Electrostatics in the Operating Room—*Carl W. Walter, M.D.*
Explosion Hazards in the Operating Room—*Richard Barrett, M.D.*
Safety from Anesthetic Explosions in Hospital Operating Rooms—*Robin Beach*
How to Avoid Overloading O.R. Schedules—*John G. Steinle*
Methods of Sterilization—*Carl W. Walter, M.D.*
Preoperative Skin Preparation—*Carl W. Walter, M.D.*
Seven Steps to Supervisory Control—*John King Bruun*
and
Four Aspects of Good Supervision—*Edith Dee Hall, R.N.*
Should the O.R. Be a Separate Department?—*Max E. Gerfen*
and
The O.R. *Should* Be a Separate Department—*R. W. Blaisdell*
The O.R. Recovery Room—a Symposium
What Is the Educational Value of Recovery Room Assignment?—*Sister St. Bernadette, S.M., R.N.*
Recovery Unit Improves Care—*Mrs. Ethel I. West, R.N.*
Physical Layout of the Recovery Room—*Harriet B. Smith, R.N.*
Planning and Management of the Recovery Room—*Elliott Hurwitt, M.D.*

OPERATING ROOM SUPERVISORS

For Older-Type Autoclaves

Diacks — make possible as perfect sterilization as new autoclaves.

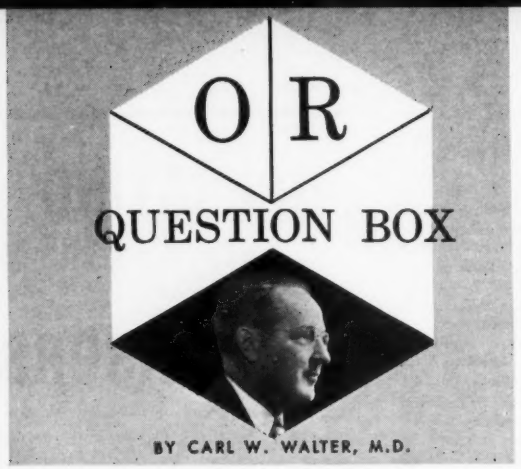
For New, Modern Autoclaves

Diacks — properly used will prove any slip-up in technique — which may cause serious trouble if undetected.

Diacks Controls — For 16 years supervisors who have used Diacks regularly know how often Diacks have shown as faulty what they thought was a perfect sterilization.

SMITH & UNDERWOOD
SOLE MANUFACTURERS
Diack Controls and Inform Controls
Royal Oak, Michigan

TIME-TRIED Diack Controls



Assisted by Dorothy W. Errera, R.N.

Q. In one of our research projects we have found it necessary to render mineral oil pyrogen-free. The mineral oil is not being injected but contacts the fluid that is injected. Do you know of a method by which this can be done? We would appreciate any information that you can give us.

A. It is unlikely that pyrogens can be demonstrated in freshly opened containers of liquid petrolatum. Freshly opened material can be sterilized for each use to avoid the difficulty you apparently are experiencing. Fifty-cc. quantities of the oil are sterilized in pyrogen-free Pyrex containers. One cc. of pyrogen-free distilled water should be shaken with the oil before it is placed in a steam sterilizer. The exposure should be 30 minutes at 250° F.

Q. Is it necessary to purchase special equipment for flasking solutions?

A. The flask containing the solution should be of heat-resistant glass (Pyrex) able to withstand breakage due to heating, and hard enough to withstand breakage from careless handling. The composition of the glass should withstand attack by chemicals in the solutions. The inner surfaces should be smooth and free of crevices or other deterrents to thorough cleaning. The shape is a matter of individual choice. The container should be designed for hermetic sealing with special closures so that the sterile solutions can be stored safely.

Q. You have said that solutions are easy to sterilize. Why is the sterilizing time then so much longer than for dry goods?

A. The actual exposure time is 30 minutes at 250° F. The problem of heating differs from that of heating dry goods because time must be allowed for the energy to be exchanged across the surface of the flask containing the solution. The steam heats the glass; the glass heats the solution inside the flask. The time involved varies with the thickness of the glass and the type of solution being sterilized.

The heating periods for flasks of various sizes have been determined (*Aseptic Treatment of Wounds*, Chapter 16). A liter flask will heat in 10 minutes; a 2 liter flask will heat in 30 minutes. A 50cc. flask will heat much more quickly. It is only after this initial heating is accomplished that the minimum standard of 30 minutes at 250° F. is applied.

These heating periods have been determined on a standard Pyrex solution flask. Variations in the thickness of flask wall would alter these standards.

Q. Is this the only difference in the sterilizing cycles of dry goods and solutions?

A. The end of the sterilizing cycle of solutions must be managed very carefully to avoid harmful concentration of solutions or splattering. At the end of the cycle, the steam supply to the sterilizer must be turned off so that the whole sterilizer cools to the point at which the solutions are in equilibrium with atmospheric pressure.

Q. Is the water left in the reservoir after the still has been turned off safe for making parenteral solutions? Should the reservoir be sterilized in any way?

A. The distillate left in Pyrex reservoirs after the still has been turned off is safe for making parenteral solutions until it cools to room temperature. After that, it should be discarded or used in the chemistry laboratories. The reason for this is that distilled water takes in air as it cools and as it does so, it inevitably becomes contaminated with air-borne bacteria. Many of these multiply in distilled water and produce pyrogens.

If the Pyrex reservoir is an inverted carboy, it is relatively easy to drain the carboy, leaving only a film of water clinging to the inside of the glass. The carboy itself can be dried out or at least kept too hot for bacterial growth by simply mounting a G.E. infrared lamp in such a position that it keeps the carboy heated until it is thoroughly dried or until it is used again.

Q. In checking through the catalogs I have on hand I have been unable to find any information on the chemical sterilization of cystoscopes and filiform catheters.

A. Cystoscopes and filiform catheters can be disinfected by washing them thoroughly with a dishwashing household detergent such as Joy or Tide. They are then immersed in one of the quaternary ammonium compounds such as Zephiran, Urolocide, or Detergicide.

Chemical disinfection, however, does not destroy the virus of homologous serum jaundice, and whenever the mucus membranes are broken, there is the danger of transmitting this virus from one patient to another. For this reason, ethylene oxide sterilizers have been developed which will sterilize items such as you describe without destroying them.

Q. I would like information on warming water for the operating rooms. The plan is to sterilize the water in autoclaves in the central supply room and send it to surgery. Warming cabinets have been recommended, but the nurses were of the opinion that the water should be at least 170° F. I have read somewhere that water should be at room temperature.

A. Flasked solutions for use in the operating room are usually warmed to 140° F. in a warming cabinet located in the substerilizing room contiguous to the operating room. At the operating table, a flask at 140° F. and one at room temperature are available for mixing the solutions to achieve the desired temperature. More elaborate technics are possible using explosion-proof solution warmers.

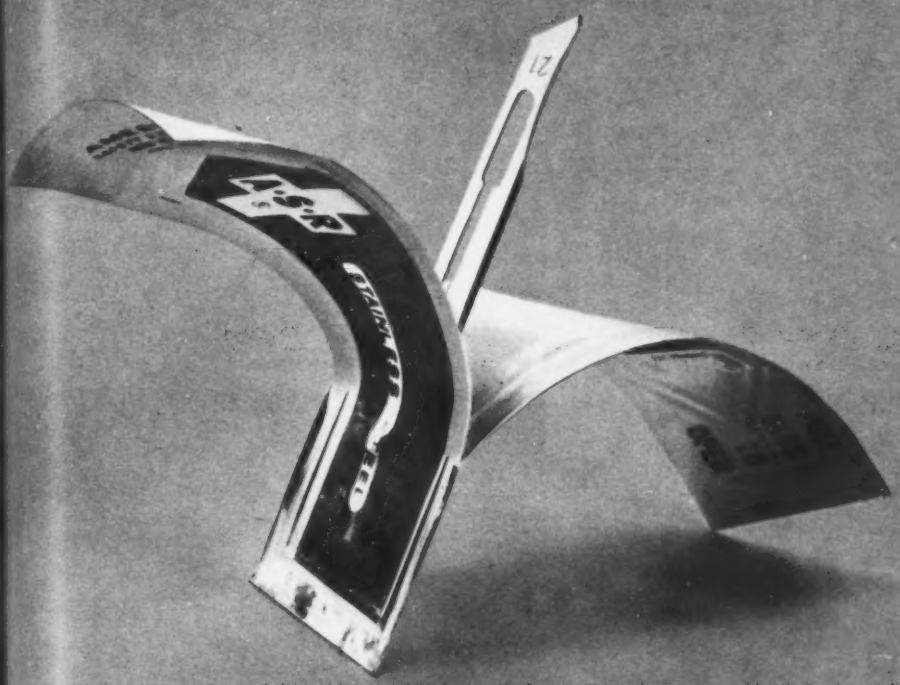
Q. Can the new germicidal soaps being advertised be used for surgical scrubbing?

A. The new germicidal soaps contain TMTD (tetramethylthiuran disulfide) and are effective when used for a consecutive period of time. As with the soaps and detergents containing hexachlorophene, the effect is cumulative.

now available!

SteriSharps®

The first sterile, stainless-steel surgical blade



An important improvement
in operating room technic
for hospitals everywhere

new SteriSharps® surgical blade valuable aid to surgeons and nurses ... saves time, eliminates blade waste

Now available to hospitals everywhere — the new SteriSharp surgical blade. SteriSharp is the product of five years of extensive research — research resulting in the perfection of a new kind of blade, made of stainless steel. It has the sharpest, most uniform, most durable cutting edge made today. And it comes to you sterile. Saves time and simplifies technic in the operating room.

Heat sterilization assures complete asepsis

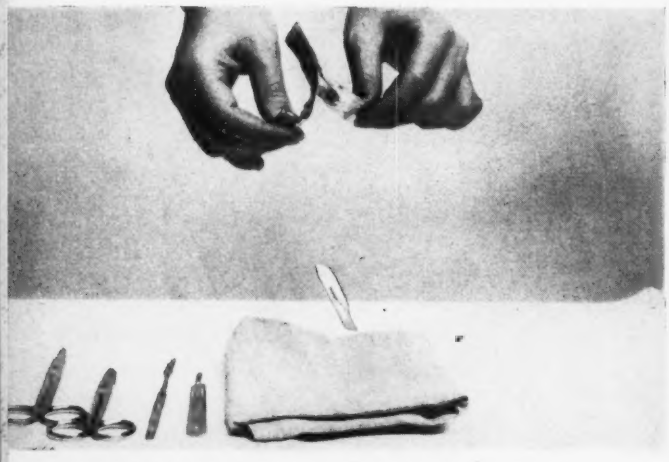
Here's how every SteriSharp arrives in the sterile field *ready for instant use*. SteriSharps, precision-sharpened and thoroughly cleaned, are hermetically sealed in double vinyl-lined aluminum foil. Then the sealed packets are heat-sterilized to destroy all microbial life. Rigid quality control and inspection — including a sterility check by an independent laboratory in accordance with the section on Sterility tests for Solids in U.S. Pharmacopeia XV — back a guarantee of an absolutely sterile blade.

SteriSharps offer important economy

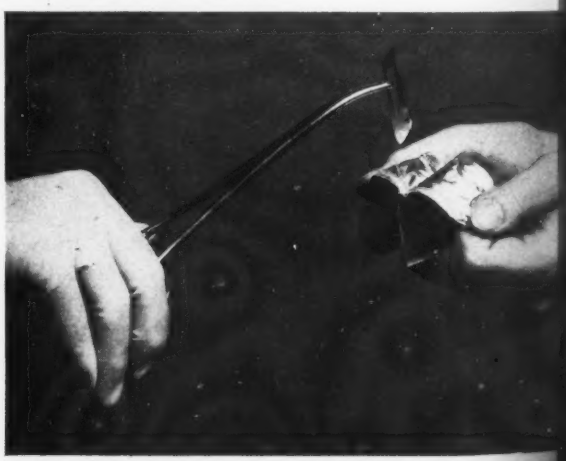
SteriSharp blades eliminate blade waste throughout the hospital. The practice of preparing several blades for each operation is unnecessary. With convenient, easily opened SteriSharps, only blades actually needed are used, because *sealed* SteriSharp packets are reusable.

(*Continued on next page*)

BASIC PROCEDURES IN THE STERISHARP TECHNIC

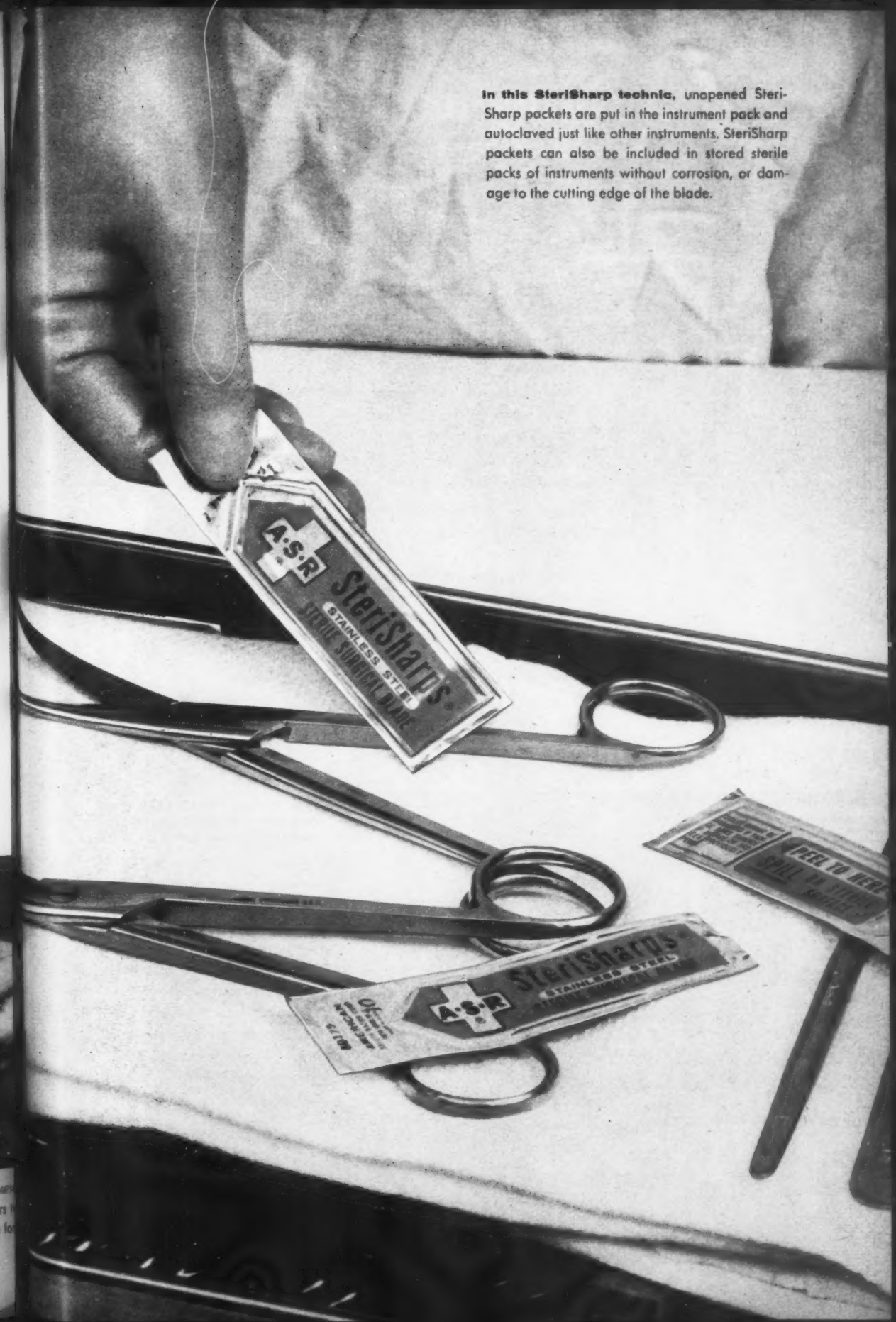


Peel and Spill. Circulating nurse opens SteriSharp packet as illustrated, spills blade on sterile towel. Suture nurse picks up blade and attaches it to sterile handle from the instrument pack.



Peel and Proffer. In this procedure circulating nurse opens SteriSharp packet, as illustrated, and proffers to suture nurse. Suture nurse grasps blade with sterile forceps and attaches to handle.

In Instrument Pack. This SteriSharp procedure is shown on the following three right-hand pages.



In this SteriSharp technic, unopened SteriSharp packets are put in the instrument pack and autoclaved just like other instruments. SteriSharp packets can also be included in stored sterile packs of instruments without corrosion, or damage to the cutting edge of the blade.

new SteriSharps® surgical blade
valuable aid to surgeons and nurses
... saves time, eliminates blade waste

Now available to hospitals everywhere — the new SteriSharp surgical blade. SteriSharp is the product of five years of extensive research — research resulting in the perfection of a new kind of blade, made of stainless steel. It has the sharpest, most uniform, most durable cutting edge made today. And it comes to you sterile. Saves time and simplifies technic in the operating room.

Heat sterilization assures complete asepsis

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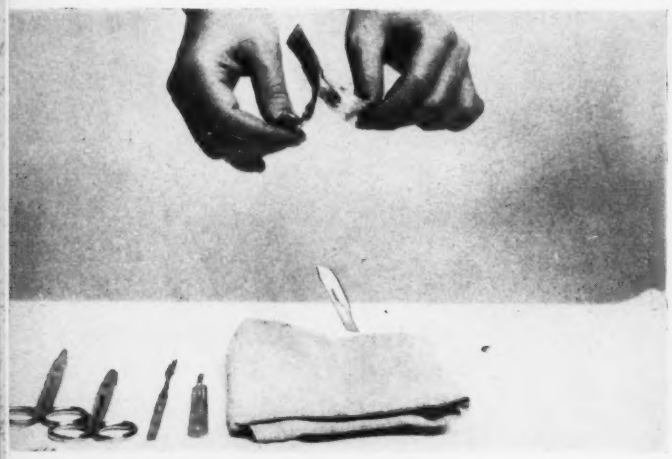
(*Continued on next page*)

BASIC PROCEDURES IN THE STERISHARP TECHNIC



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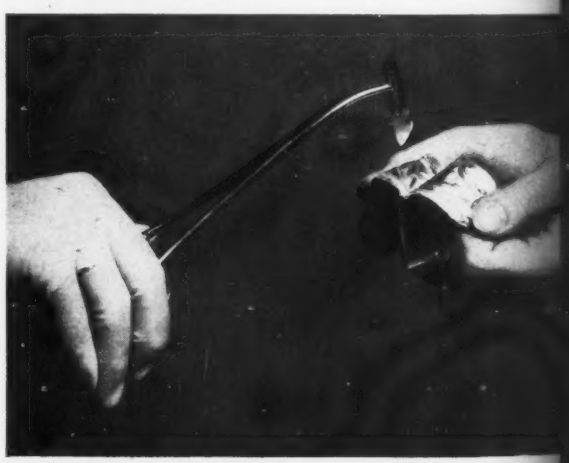


Peel and Proffer. In this procedure circulating nur opens SteriSharp packet, as illustrated, and proffers suture nurse. Suture nurse grasps blade with sterile fo ceps and attaches to handle.

In Instrument Pack. This SteriSharp procedure is shown on the following three right-hand pages.

In this SteriSharp technic, unopened SteriSharp packets are put in the instrument pack and autoclaved just like other instruments. SteriSharp packets can also be included in stored sterile packs of instruments without corrosion, or damage to the cutting edge of the blade.

SteriSharps will not corrode

These long-lived, stainless-steel blades are unaffected by body fluids, autoclaving, dry heat or solutions. They will not corrode. Eliminate the need for disinfecting solutions. SteriSharps also eliminate old methods of handling and preparing blades for the operating field. Chance of contamination is lessened. There is a minimum of blade damage. And blades can be stored indefinitely!

Consistent sharpness in every blade

What's more, surgeons can depend on *consistent sharpness* in every SteriSharp. Blades are tested by the A.S.R. Sharpometer, the only instrument that measures sharpness electronically. That's why every single SteriSharp has the same uniform sharpness.

SteriSharp superiority shown in hospital tests

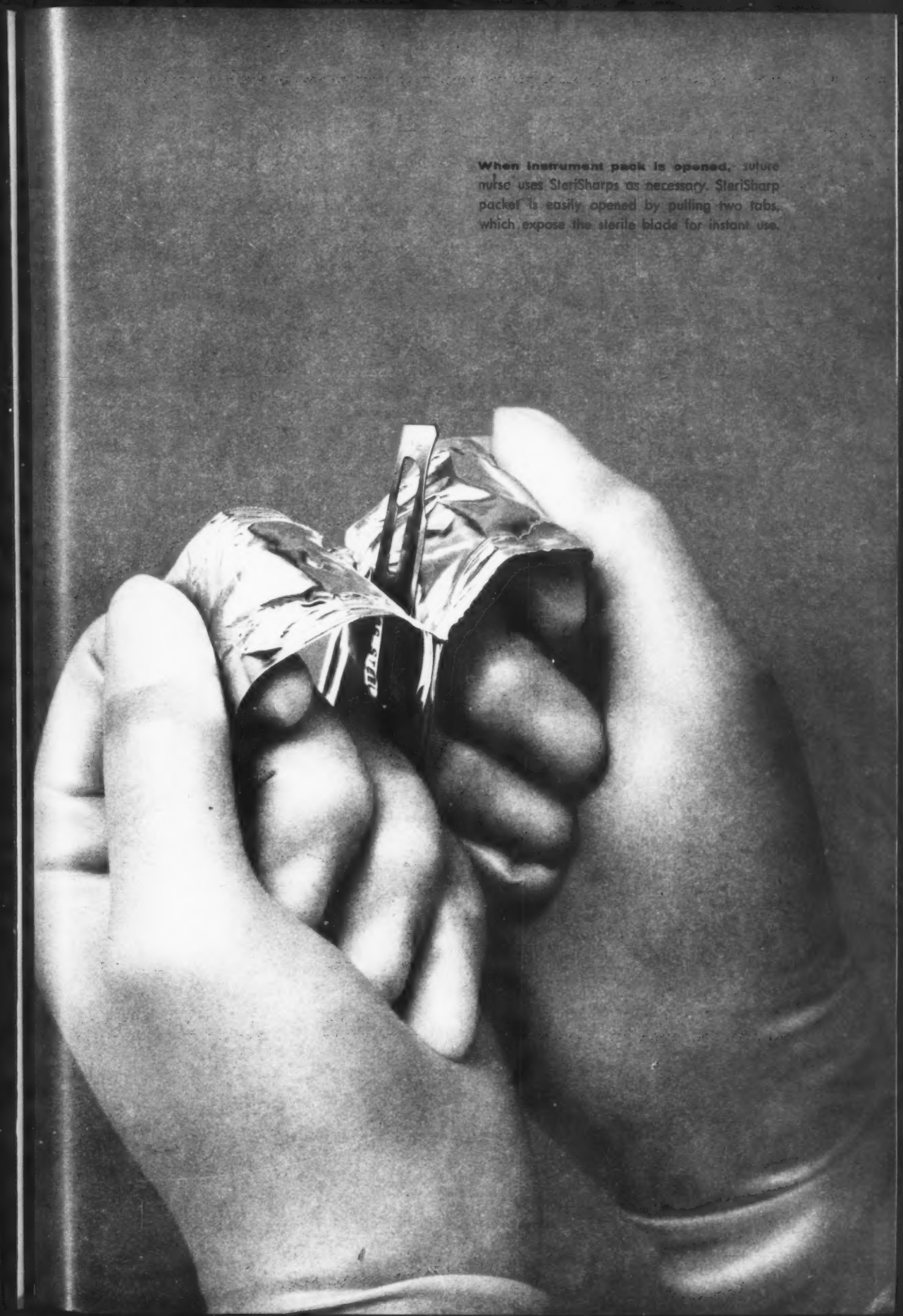
The superiority of new SteriSharp surgical blades has already been evidenced in controlled tests in representative hospitals. SteriSharps were tested against every other kind of surgical blade. They proved to be sharper, more durable, easier to use than any other. And significant economies were reported.

If *you* would like a demonstration of how the SteriSharp system can improve the operating-room technic in your hospital, write to: American Safety Razor Corp., Hospital Division, 380 Madison Avenue, New York 17, New York.

(Continued on next page)

A. S. R. SHARPOMETER CHECKS BLADE EDGES ELECTRONICALLY

Here's the Sharpometer, the amazing device that *guarantees* uniform, consistent sharpness in every single SteriSharp. The Sharpometer, an A.S.R.-developed instrument, measures blade sharpness *electronically*. This scientific testing assures surgeons the *same* exact sharpness — blade after blade after blade — without fail!

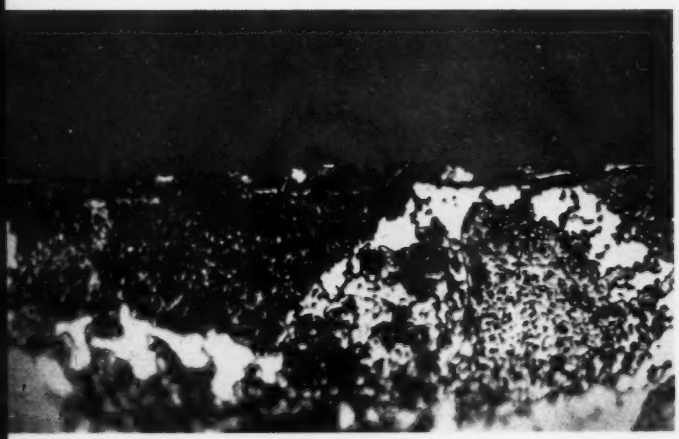


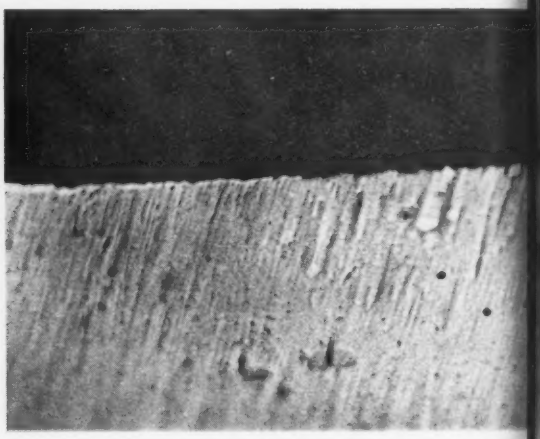
When instrument pack is opened, suture nurse uses SteriSharps as necessary. SteriSharp packet is easily opened by pulling two tabs, which expose the sterile blade for instant use.

Blades and dispenser available from leading suppliers

SteriSharp sterile surgical blades in every design and quantity are immediately available from leading hospital suppliers. The practical, stainless-steel dispenser shown is also available without extra cost on a special offer. Check with your surgical supply dealer. Or write for complete details, prices, to: American Safety Razor Corp., Hospital Division. 380 Madison Avenue, New York 17, New York.

NEW STERISHARPS CAN BE AUTOCLAVED





One of a series of tests which demonstrated the superiority of SteriSharps in hospital use subjected a SteriSharp and an ordinary surgical blade to autoclaving — under 18 pounds of pressure at 250° F. — for 30 minutes. The ordinary blade (above, left) was severely corroded and stained, and the edge became rough and impaired. The SteriSharp (right) did not corrode. The cutting edge was unaffected. This test proves SteriSharp packets can be autoclaved without damage or corrosion. Actual photos shown are magnified 1,000 times.

A·S·R

precision products

SteriSharps® . . . the first sterile, stainless-steel surgical blade

Technic is completed when suture nurse attaches SteriSharp to sterile handle. SteriSharps save time, eliminate waste and damage in blade preparation. Unused, sealed SteriSharp packets can be placed in instrument pack and resterilized when necessary — without harm to blade.

Throughout the hospital there are more and more calls for

GANTRISIN *'Roche'*

highly soluble, single sulfonamide

Respiratory Infections	tablets, 0.5 Gm each
Meningitis Surgery	ampuls, 5 cc (2 Gm) and 10 cc (4 Gm)
Urinary Infections	tablets, 0.5 Gm each
Pediatrics	pediatric suspension (raspberry-flavored), and syrup (chocolate-flavored), containing the new, tasteless Gantrisin (acetyl)
Eye, Ear, Nose & Throat Infections	ophthalmic solution, 4%, ophthalmic ointment, 4%, ear solution, 4%, and nasal solution, 4%
Obstetrics & Gynecology	vaginal cream, 10%, in white vanishing cream base
Outpatient Clinic	tablets, 0.5 Gm each

Gantrisin®—brand of sulfisoxazole
Gantrisin® (acetyl)—brand of acetyl sulfisoxazole

Hoffmann-La Roche Inc • Roche Park • Nutley 10 • N. J.

Models checked below are those suggested to fill requirements under each Department. They ar

DEPARTMENT	SUGGESTED QUANTITY 25 Bed	50 Bed	100 Bed	Classification Type	Model No.	Explosion Proof Suction - Ether Units Cabinet 927	Cabinet 928	Stand 900	Portable 910
MAJOR OPERATING ROOM* Explosion Proof Suction - Ether Units	1 (1 per operating room)	2	4			X	X	X	X
Explosion Proof Suction Units	1 (1 per two operating rooms)	1	2						
MINOR OPERATING ROOM* Explosion Proof Suction - Ether Units	1 (1 per operating room)	1	2			X	X	X	X
Explosion Proof Suction Units	1 (1 per two operating rooms)	1	1						
DELIVERY ROOM Explosion Proof Suction Units	1	1	2						
RECOVERY ROOM Aspirating Pumps	1	1	2						
Post-Operative Mild Drainage	1	2	2						
Post-Operative Thoracic Suction	1	1	1						
Tidal Irrigation	1	1	1						
CENTRAL SUPPLY FOR BEDSIDE FLOOR USE & STORAGE Aspirating Pumps	2	3	6						
Post-Operative Mild Drainage Units	2	5	10						
Post-Operative Thoracic Suction Units	1	2	2						
Tidal Irrigation	1	1	2						
NURSERY Aspirating Pumps	1	1	2						
MATERNITY Breast Pump	1	1	2						
EAR - NOSE - THROAT Explosion Proof Suction - Ether Units — or — Explosion Proof Suction Units	1	1	1				X	X	X
OUT PATIENT CLINIC Suction Units	1	1	2						
EMERGENCY Suction Units	1	1	2						
DENTAL CLINIC Aspirators	1 per dental chair								
MORGUE AND AUTOPSY Autopsy Suction Unit	1	1	1						
LABORATORY Centrifuge	1	1	1						
Filter Pump	1	1	1						
Urinometer	2	2	4						
SPECIALIZED SURGERY & SERVICES Bronchoscopic Suction	1	1	1						
Nebulization of antibiotics	1	1	1						
PEDIATRICS AND OBSTETRICS Circumcision Clamps	1	1	1						
Umbilical Clamps	1	2	4						

Stand for this Portable Pump is No. 814

GOMCO SURG

TOPICS

Department. They are listed from left to right in order of completeness of operating

Proof Suction - Ether Units			Explosion Proof Suction Units				Aspirators				
Cabinet	Stand	Portable	Cabinet	Cabinet	Stand	Portable	Stand	Stand	Cabinet	Stand	Stand
928	900	910	929	930	901	911	799	798	796	791	790
X	X	X									
			X	X	X	X					
X	X	X						* (Note: If hospital does not follow pra			
			X	X	X	X		istering ether with suction-ether unit			
			X	X	X			Units should be available in quant			
				X	X	X	X	Suction-Ether Units plus one unit per			
							X	rooms as auxiliary units.)			
							X	X	X	X	X
							X	X	X	X	X
X	X	X									
				X	X	X					
				X	X	X	X	X	X	X	X
				X	X	X	X	X	X	X	X
									X	X	X

*Stand for this Portable Pump is No. 814

*Stand for this Portable Pump is No. 814

operating features.

ors				Breast Pump Portable	Post Mortem Pump	Filter Pump Portable	Broncho-scopic Cabinet	Nebulizing Portable	Post-Operative Mild Drainage	
nd	Stand	Portable	Portable						Stand	Stand
1	790	789	792	785	794	713	931	788-O	765-A	765
not follow practice of admin-ction-ether unit, then Suction lable in quantity shown for s one unit per two operating s.)										
X	X	X	X							
									X	X
X	X	X	X							
									X	X
X	X	X	X							
				X						
X	X	X	X							
X	X	X	X							
X	X	X	X							
		Stand for this Portable Pump is No. 816	Stand for this Portable Pump is No. 816	Stand for this Portable Pump is No. 816	X					
						X				
							X			
								X		

P. • 828 E. Ferry St., Buffalo 11, New York

e listed from left to right in order of completeness of operating features.

Explosion Proof Suction Units				Aspirators							Breast Pump	Post Mortem	Filter Pump	B
Cabinet	Cabinet	Stand	Portable	Stand	Stand	Cabinet	Stand	Stand	Portable	Portable	Portable	Pump	Portable	C
929	930	901	911	799	798	796	791	790	789	792	785	794	713	
X	X	X	X											
					*(Note: If hospital does not follow practice of administering ether with suction-ether unit, then Suction Units should be available in quantity shown for Suction-Ether Units plus one unit per two operating rooms as auxiliary units.)									
X	X	X	X											
X	X	X												
	X	X	X	X	X	X	X	X	X	X				
				X	X	X	X	X	X	X				
				X	X	X	X	X	X	X				
											X			
	X	X	X											
	X	X	X	X	X	X	X	X	X	X				
	X	X	X	X	X	X	X	X	X	X				
						X	X	X	X	X				
												X		
													X	
			Stand for this Portable Pump is No. 814						Stand for this Portable Pump is No. 816	Stand for this Portable Pump is No. 816	Stand for this Portable Pump is No. 816			

ICAL MANUFACTURING CORP. • 828 E. Ferry St., Buffalo

Filter Pump Portable	Broncho-scopic Cabinet	Nebulizing Portable	Post-Operative Mild Drainage		Thoracic Suction Mobile	Tidal Irrigator Mobile	Centri-fuge 6 Tube	Circumcision Clamp	Umbilical Clamp Set	Urinometer Set
			Stand	Stand						
713	931	788-O	765-A	765	766	855	386	1 each 8 sizes	528	205
			X	X						
					X					
						X				
			X	X						
					X					
						X				

NOTE: FOR INFORMATION ON ALL MODELS LISTED HERE SEE REVERSE SIDE.

THIS CHART IS PERFORATED SO THAT YOU MAY EASILY DETACH AND SAVE FOR READY REFERENCE.

							X			
X										
										X
	X									
		X								
								X		
									X	

Buffalo 11, New York

GO

© 1

GOMCO EQUIPMENT

CHECK LIST

FOR HOSPITALS

This equipment list is suggested as a guide for average hospital requirements for this type of equipment. The listing is made according to departments to give a check list for any hospital having all or any of the departments shown.

The suggested quantities are considered minimum quantities for efficient operation of a given department. Variations in requirements will arise depending on local case treatment experience. The suggested quantity for hospitals with bed capacities greater than 100 can be readily ascertained by multiplying the quantities shown by the relationship between the larger capacity and 100 beds, i.e., if a 200 bed hospital, multiply quantity in 100 bed column by 2, etc.

A choice of units is given in many cases. We manufacture a number of different models which perform the same basic requirements of a particular application but certain models have added operating features which make them the more desirable units for all around use. It is desirable to purchase the units with maximum operating features. For example, a No. 927 Suction-Ether unit has a double pump with one pump supplying pressure for ether vaporization and the other pump supplying suction for the vacuum system. We therefore list the No. 927 as the first recommended unit for Suction-Ether service and the No. 928 unit as the second recommended unit, etc. Wherever more than one model is listed for any given application, it is an indication in most cases that while any of the models listed will satisfactorily perform the requirements of that application, some models have special added features which make them more desirable for all around use in the order listed from left to right.

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LITHO IN U. S. A.

GOMCO EQUIPMENT

Fostering Improved Technics

GOMCO CHECK LIST

SUCTION, SUCTION-ETHER, DRAINAGE AND ASPIRATING UNITS - WHEN, WHERE AND HOW MANY ARE RECOMMENDED FOR THE SIZE AND TYPE OF HOSPITAL DEPARTMENT

OPEN THIS FOLD FOR COMPLETE CHECK LIST. THEN REFER TO THIS PAGE AND BACK PAGE FOR DESCRIPTIONS OF MAJOR UNITS. TEAR OUT PERFORATED SHEETS TO KEEP FOR READY REFERENCE.

GOMCO EXPLOSION-PROOF SUCTION-ETHER UNITS

CABINET MODELS

No. 927 Double Pump Model and No. 928 Single Pump Model provide accurately regulated pressure (0 to 15 lbs.) and suction (0 to 25") with complete ease of operation and freedom from trouble. Handsome, heavy-duty steel cabinet in gleaming baked enamel. Aerovent Overflow Protection automatically prevents pump flooding. Conductive bumper guards and large rubber-tired casters, extremely quiet precision motor and pump make these the ideal hospital suction-ether units.

STAND UNIT No. 900

No. 900 Unit provides same facilities, safety and convenience features as more expensive cabinet units. 34½" x 15¼" x 11¼". 0 to 15 lbs. ether system; 0 to 25" suction system with Aerovent Overflow Protection.

PORTABLE MODEL No. 910

A compact unit requiring less than a square foot of table space, yet combining the precision Gomco pump, regulating valves and gauges. Explosion-proof. Protected against overflow by the Gomco Safety Overflow Valve.

GOMCO EXPLOSION-PROOF SUCTION UNITS

CABINET MODELS

No. 929 Double Pump Model (for extra heavy duty) and No. 930 Single Pump Model are handsome all-steel units with quiet-running Gomco precision pumps, accurately regulated suction from 0 to 25" and positive overflow protection by the Gomco Aerovent Valve.

STAND MODEL No. 901

Provides 0 to 25" of precision regulated suction in an easily movable 34½" x 15¼" x 11¼" explosion-proof unit, with Aerovent Overflow Protection.

PORTABLE UNIT No. 911

A portable, sturdy and quiet-running unit on an 11" by 15" base. Explosion-proof, it provides 0 to 25" of suction.

SEE BACK OF LAST PAGE FOR OTHER GOMCO HOSPITAL UNITS

Gomco No. 927 Explosion-Proof Suction-Ether Unit

All units approved by Underwriters' Laboratories, Inc.

GOMCO EQUIPMENT

Fostering Improved Technics

INFORMATION ON GOMCO UNITS FROM HOSPITAL CHECK-LIST INSIDE

GOMCO ELECTRIC ASPIRATORS

MOBILE ASPIRATORS

No. 791 stand-mounted. 0 to 25″ suction.

No. 790 stand-mounted. 0 to 20″ suction.

No. 798 stand-mounted. 0 to 25″ suction. (large capacity gallon suction bottle).

No. 799 stand-mounted. 0 to 25″ suction. (1-gallon suction bottle and Aerovent Overflow Protection).

PORTABLE ASPIRATORS

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No. 792, heavy-duty. 0 to 25″ suction.

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Heavy-duty unit with 1-gallon suction bottle. Mounts on 12″ by 20″ shelf with rubber silencing pads. Aerovent Overflow Protection. 0 to 25″ suction.

PORTABLE BREAST PUMP No. 785

Suction from 0 to 15″ controlled by patient to her comfort. Motor and pump, gauge and nursing bottles compactly mounted on 12¼″ base. Smooth glass nipple shields.

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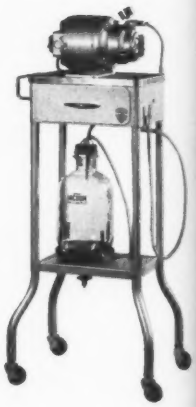

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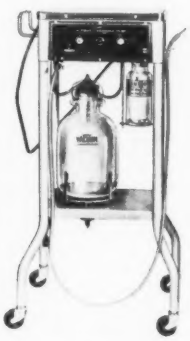

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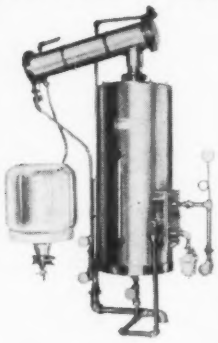

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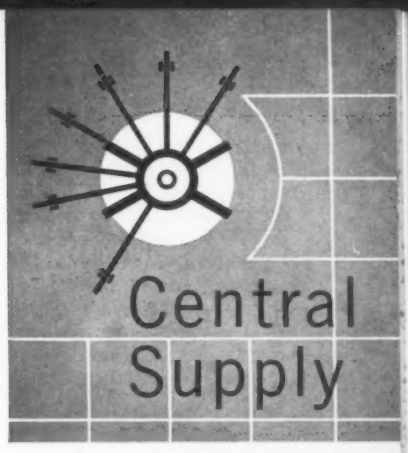

What Student Nurses Gain From CSR Experience

By Betsey R. Carroll, R.N.*

The curriculum committee at the University of Kansas Medical Center discussed for many days the possibility of placing nursing students in central supply. The question that always came up was "Where can we find the time?" But at last they made time, although it was only for a few short hours.

Because of the time limit, the program needed to be concentrated, with emphasis on basic principles of aseptic technic. These basic principles were first given to the students in a series of lectures, followed by five hours of practical experience in the department. Through individual conversation a great deal of additional knowledge was given to the students as they practiced the technics.

Forty-three students took the concentrated program. Each student was asked to write an article after her experience in the department. The following papers were written by four "foundation nursing students" ("probies").

We felt that others in the central service field might be interested in the student's viewpoint of central service in relation to the hospital and her nursing career.

The general topics discussed include:

(1) Improving patient care through intelligent use of supplies.

(2) Assisting in hospital economy.

(3) Teaching others the correct technics and care of equipment.

(4) Assisting with communication and interdepartmental human relationships.

By Dorothy Johnson

• In any hospital, the patient is the most important consideration. This fact should be foremost in the mind of each individual who is caring for him. Every member of the hospital personnel is directly or indirectly responsible for each patient. Therefore, unless this fact is realized by each and unless all work as a team to give the best care possible, the patient will undoubtedly suffer.

Moreover, every patient who enters the hospital will be a consumer of supplies, whether he is hospitalized for a day or for two or three weeks. Obviously, intelligent usage of supplies is of vital importance.

The student nurse *can* help to improve patient care through intelligent usage of supplies, but to do so, she must be conscientious and must use good judgment. In addition, she must be completely honest with herself. She should avoid contamination of supplies which must be kept sterile, but should she contaminate them or suspect contamination, she must realize the necessity for exchanging the contaminated article for a sterile one.

The student trying to place herself in the position of the patient would impress upon herself the necessity of intelligent usage of supplies.

By using supplies sparingly and by avoiding waste, the student can help prevent exhaustion of supplies in case of an emergency.

Finally, she can minimize many discomforts for the patient, such as burns, cuts, and broken needles, and awkwardness in handling supplies, if she understands thoroughly the uses, dangers, and mechanics of all supplies.

There are many ways in which the student nurse can improve hospital economy by intelligent usage of supplies. A few of these are:

(1) Using all supplies as if she were paying for them herself,

(2) Handling supplies with care—avoiding breakage, spilling, and measuring out more solutions than necessary, which results in waste; guarding against allowing rubber and plastic articles to become overheated, rendering them unusable; avoiding throwing away articles that could be reused; and avoiding contamination through carelessness,

(3) Ordering no more supplies from central service than are needed,

(4) Using supplies before "effective sterilization date" has expired.

In teaching others the correct technics and care of equipment used, the student must first know the correct technics and care of equipment used and *practice her knowledge;* otherwise, her teaching will be ineffective. Secondly, when she observes someone using incorrect methods in using and caring for equipment, she should very tactfully explain why the method used was unwise and demonstrate the *correct method.* Thirdly, she should show a real interest in questions or advice asked of her concerning usage or care of equipment.

She should take particular care in answering in a manner in which the questioner can understand. If she is not sure of the correct answer, she should ask someone who knows and then explain it.

Should this person be slow to understand or ask the same question repeatedly, she must be patient and not drop the matter until she is positive that he understands and that he practices the proper technics.

The student can also aid in teaching correct procedures by stimulating other employees to want to learn more about their work so that they will have a thorough knowledge of their jobs and a desire to learn facts. This she can do by her own enthusiasm.

(Continued on page 109)

*Mrs. Carroll is administrative supervisor, central service department, University of Kansas Medical Center, Kansas City, Kan.

Central Service Group Formed in Massachusetts

● Central service supervisors in Massachusetts have formed an active statewide organization which holds monthly meetings at hospitals in the Boston area.

Thirty-nine attended the first meeting, held at the Massachusetts General Hospital, Boston, to hear a lecture by John Murphy, chief pharmacist of that hospital, on the principles of sterilization, including some of the advances and technics soon to become available.

Forty-four attended the October meeting at the Cambridge City Hospital, which featured a film sponsored by the American Society of Bacteriologists, entitled "Principles of Pressure Steam Sterilization."

The November meeting, which 47 attended, was held at the Free Hospital for Women, Brookline, and featured a lecture on work simplification by Frederick Markus, architect and industrial engineer, of the firm of Markus and Nocka.

Each meeting has included a business session, a formal program, refreshments, and a tour of the central service department of the hospital visited.

When 12 central service supervisors met in the summer of 1956 to discuss a statewide organization, they felt that the exchange of knowledge and opportunities for learning should not be limited to a "chosen few."

Membership therefore was opened to all central service supervisors and their assistants, regardless of whether these assistants were nurses. At the direct request of a superintendent of nurses, the membership would include any authorized individual from any hospital in the state which was in the process of planning such a department.

The group decided to remain a completely independent organization for the time being. The nonprofessional membership would make the organization ineligible for ANA membership, officers pointed out, and although membership in the NLN or AHA might be possible, they felt that they were not sufficiently representative of the future organization to make any decision of this nature.

A letter was sent out in September to every hospital listed or known as having a central service department. This was followed by a post-card announcement of the first official meeting of the organization, giving the date, directions, and the program of the first meeting. The post-card announcement is now standard procedure for all meetings.

A western Massachusetts group was set up for the benefit of supervisors in that area who face great difficulties in travel. This group has nine members, prepares its own programs, but works with a "coordinator" from the main group in Boston, so that the programs and benefits are quite similar. It is not treated as a separate group, and its members frequently attend the Boston meetings too.

Chairman of the western Massachusetts group is Mrs. Dorothy Young, R.N., Wesson Maternity Hospital, Springfield, Mass. Coordinator is Mrs. Barbara Nye, R.N., Norwood (Mass.) Hospital.

"From the enthusiastic response of its members, and its steadily growing membership, it is obvious that this organization approves the idea of full representation of all supervisors and assistants within the state," says the organization's president, Mrs. Jean E. Christie, R.N., Free Hospital for Women, Brookline, Mass.

Officers of the Massachusetts Association of Central Service Supervisors are, front row (l. to r.): James Willis, Massachusetts General Hospital, treasurer; Mrs. Jean Christie, R.N., Free Hospital for Women, Brookline, president; Mrs. Alice Shea, R.N., Cambridge City Hospital, secretary; Mrs. Isabelle Allen, R.N., Lawrence Quigley Memorial Hospital, vice-president.

Back row (l. to r.): Mrs. Ruth Boyden, R.N., Malden Hospital, chairman, membership committee; Mrs. Alice Bittel, R.N., Newton-Wellesley Hospital, Newton-Lower Falls, program committee; and Mrs. Olive Davis, Winchester Hospital, chairman, program committee.

Good human relationships and communications between nursing units and central service are very important in the efficiency of both departments. Courses exercised by these departments will aid a great deal in promoting both better human relationships and communication.

Desirable human relationships are never present when there is the feeling that this or that job is of no importance. There is no job in the hospital that is not important. Realization of this fact will certainly aid in better human relationships.

Nursing units could improve communications by making sure the syringes and other instruments are properly rinsed and in the proper container at the proper time, so that central service can make its pick-ups rapidly and efficiently. This practice will also aid central service in maintaining a speedy assembly.

By the same token, central service can help the nursing units by filling requisitions promptly and correctly and by checking the supplies for defects before arriving on the nursing unit with them.

By Janet Hanneman

● Our prime purpose as student nurses is to learn to give total patient care in the most efficient manner possible. We may have the best in equipment and supplies at our disposal and yet give poor patient care through unintelligent usage.

While we are students we should learn the correct technics in handling supplies, both sterile and unsterile. Maintaining aseptic technic in using sterile supplies is of the utmost importance in promoting healing and preventing the spread of infection. Student nurses, as well as the rest of the nursing team, should use dexterity in handling sterile supplies, but we should not hesitate to start over again with new supplies, if they have used faulty technic in a procedure.

Many times we will be the only ones who know we have contaminated our needles, syringes, sponges, etc. Even though we may use twice as many supplies as we should, it is better to complete a procedure that was supposed to be sterile knowing that aseptic technic was maintained.

As student nurses we can do our part in maintaining adequate supplies on the floor. Delays in giving treatments while waiting for supplies can cause patient discomfort which could be prevented by ordering supplies ahead of time, when possible.

With from 15 to 20 percent of hospital annual budgets going for supplies and equipment exclusive of linen and food, economizing should be the duty of each worker on the hospital staff. After all, it is not our money but the taxpayers' and patients'; so we are under obligation to see that costs remain at a minimal level.

As student nurses we have no hand in the purchasing of supplies, but we can observe the quality of materials in relationship to their durability and cost. Thus we will have started filling in a background of knowledge for our later use.

An adequate supply of materials on the ward at all times is important. The patient can be spared discomfort if supplies are on hand when needed. Students should report all deficiencies in stock. Substitutes for the proper item are often more expensive (e.g., plain gauze sponges substituted for sponges with cotton filler).

Over-supply is not good, either — it is wasteful. Sterile supplies become outdated, and an excess of something seems to promote laxity in an economizing program. Breakage and wastefulness, of course, are detrimental to hospital economy. The student nurse can do her share to reduce them by putting syringes and glassware where they won't be knocked off, and by reporting all breakage.

If a needle is bent, it should not be straightened, but returned to central supply, where it can be properly handled. Following this rule makes it possible to keep a complete inventory of all stock.

Deterioration and softening of rubber catheters, rectal tubes, and draw sheets occur if they are not properly cleaned. Lubricating substances should be rinsed off them as soon as possible. Ice bags and hot water bottles should be thoroughly dried (to prevent sticking together) and inflated before storing. Any measure which prevents breakage and wastefulness in using supplies contributes to the economy of the hospital.

Student nurses, as well as new interns and medical students, should be instructed as to the proper care and usage of equipment and supplies. If students see someone using faulty technic which would in any way be detrimental to the patient, they should give instruction at the time or report the matter to the head nurse, if it is a touchy situation.

Students should know the contents of various trays well enough to be able to set them up on the floor or to instruct their preparation in time of emergency. They also could make posters illustrating and emphasizing cost of supplies and the need for their careful handling. These posters could be saved and re-used when a new group of students came on the floor.

Although central supply plays an important role in the plan for total patient care, we are prone to think of it as an isolated unit. Communications between the floor and central supply could be improved if the proper requisitions were filled out correctly when breakage is reported and stock supplies are requested. Jangled nerves on both ends can be avoided if supplies are ordered before the time of treatment, when possible.

Good interdepartmental relationships can be established if each worker in the nursing team (which includes the central supply department) has a thorough knowledge of his job, understands the importance of his job to the whole, has the ability to work well, and the disposition to cooperate.

By Martha Ann Evans

● The student nurse can improve patient care in the following ways:

(1) By caring for the patient with the best possible equipment and supplies for his particular situation or condition.

(2) By treating the patient in the least traumatic way—using the correct procedure—and informing him about the coming events.

(3) By guarding against infection to the patient being treated and others in the hospital, through the use of sterile equipment and aseptic technic, and proper disposal of used articles.

(4) By using the services available to provide for the patient's peace of mind and comfort.

She can also improve hospital economy by using supplies intelligently, in these ways:

(1) By causing less waste and breakage of supplies, and using equipment to the best advantage.

(2) By cutting down on infections and trauma, shortening the time patients would spend in the hospital, and

(Continued on next page)

guarding against injuries to patients, which might result in costly lawsuits against the hospital.

(3) By insuring the availability of an article which may be needed in several places at once.

(4) By better use of professional time and personnel.

These objectives can be accomplished by using proper technics, maintaining a sterile field, making proper disposal of used articles, using correct supplies, and making orderly and efficient use of time and equipment.

Preaching, practicing, picturing, and providing literature are the four P's the student can use to help teach others the correct technics and care of equipment used. Not only must she tell someone how to do something but she must also practice the correct way if she expects others to do likewise.

Illustrating what has just been said by drawings, skits, slides, or demonstrations—is also helpful in teaching. To further the learning process, literature should be provided which pertains to the subject in question.

To help improve communications and human relationships between central supply and the nursing units, the student nurse can do the following procedures (or see that they are done) which central supply asks the floors to do in order to speed up central supply service and make it more efficient.

Fill out requisitions properly and completely, using the correct one for the purpose in mind; wash out syringes with clear water immediately after use, to prevent hardening of material within them; collect articles after use in a central area, to simplify their pick-up for central supply; return supplies which can be used again to the central area as soon as possible, so that they may go into circulation without delay and waste of time, money, and effort.

By Janet Teague

● The modern hospital service for sterilizing and distributing equipment —the central supply service—makes the work of the nurse and the student nurse much simpler today than it has ever been in the past.

Only in the last 25 years has the hospital centralized in one area the burden of providing sufficient equipment, both sterile and unsterile, to care for the patient.

Besides improving hospital economy, insuring safer sterilization procedures, and providing increased hospital efficiency, this system permits better utilization of the professional nurse's time.

Since the nurse is no longer a "part-time dish-washer," she is obligated and able to give the patient more intelligent care. She has more time and is more physically fit to provide the treatment and instruction the patient needs for satisfactory recovery.

There are four areas in which the nurse can improve the hospital experience for the patient, in relation with the central supply service:

PATIENT CARE

Through the intelligent usage of supplies, the care of the patient is improved.

The nurse must understand and practice aseptic technic when handling any supplies which will come in contact with the patient. This means that she will not touch any portion of a sterile needle, a sterile dressing, a sterile instrument, or any sterile equipment to an unsterile area before using it on the patient. She also will not contaminate the sterile supply by careless technic.

Because the nurse comes into contact with many patients, she must know how to prevent contamination from one patient to another when a condition is communicable. If a piece of sterile equipment should accidentally become contaminated, the student nurse must discard the contaminated equipment and begin again with sterile equipment.

By concentrating on what she is doing, remaining calm, and remembering the principles of aseptic technic, she will reduce mistakes to a minimum.

Understanding the principles of sterilization gives the nurse an appreciation of sterile equipment and its usage. Understanding the general principles in the mechanical operation of the sterilizing unit, the autoclave, equips the student nurse to sterilize equipment which is still sterilized on some hospital wards.

A knowledge of when to use dry and when to use steam sterilization, and the special problems, such as exposure time, involved in each, will promote intelligent usage of equipment in the care of the patient.

PATIENT EXPENSE

One aim of the student nurse is to do her part in improving hospital economy. The expense of maintaining the hospital reflects directly on the patient.

Perhaps the most important thing the student can do to keep hospital expenses at a minimum is to have a proper respect for equipment and supplies and therefore handle them carefully.

When working in a calm, collected manner, the student may be more protective of equipment than when she is in a hurry. Again, concentration upon the task at hand is important in preventing breakage and destruction of equipment.

The student does her part by not disturbing others who are working with expensive equipment.

Rinsing equipment, such as syringes, immediately after use saves working time for central service employees and preserves the supplies.

Returning articles to their proper storage places and maintaining order in supply spaces help cut down breakage and damage.

Careful planning and using only enough equipment to carry out procedures satisfactorily may cut down expenses.

Intelligent observation and initiative on the part of the student nurse may reveal conditions which could be improved on the hospital wards and thus promote more efficient working conditions and handling of equipment.

PATIENT PROTECTION

The student nurse may learn about and apply aseptic technic and proper handling of equipment, but she will undoubtedly come into contact with persons who do not. Here she must play a very important role, for the patient pays for and deserves every precaution known to protect him while in the hospital.

The best way for the student nurse to teach others the correct procedures is to be a good example. Observation is a very painless and satisfactory learning mechanism and one of which the nurse must take advantage.

Often it becomes necessary to verbally correct a person who is using wrong technic. The student nurse, because of her position and her profession, is obligated to use every principle of good approach in correcting a co-worker or a patient. She must respect the person who makes a mistake and let him know that she does so.

She should be able to explain as clearly and as precisely as possible the reasons for and the advantages of using the correct technic. She must

(Continued on page 119)

STEROX-O-MATIC

GAS STERILIZATION
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Development of the Castle Sterox-O-Matic Gas Sterilizer introduces an entirely new concept of hospital aseptic routine.

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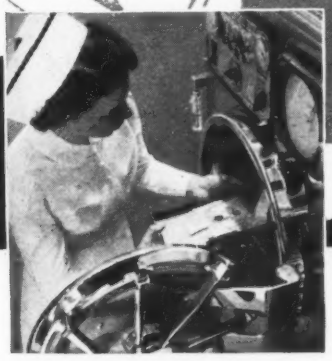

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Anti-Inflammatory Agent

Enzeon, a suspension of chymotrypsin in sesame oil, is being introduced for intramuscular injection by George A. Breon & Co.

According to the manufacturer, Enzeon helps restore the disturbed balance of enzyme systems to normal physiologic function, relieves inflammation, promotes healing, restores local circulation, reduces edema, and will not interfere with blood-clotting.

The product is recommended for chronic ulcers, reduction of hematomas, swelling due to trauma, cellulitis, bursitis and arthritis, phlebitis, and eye inflammation. It is supplied by Breon in 5-cc. multidose vials.

Treatment of Skin Ailments

Plaquenil sulphate, for the treatment of lupus erythematosus, polymorphic light eruptions, and other chronic skin diseases related to sunlight, is now available from Winthrop Laboratories.

The drug is a colorless, crystalline water-soluble. Chemically, it is 7-chloro-4-[4-(N-ethyl-N-B-hydroxyethylamino)-1-methylbutylamino] quinoline sulfate.

The manufacturer reports that it has also been used successfully in malaria and giardiasis.

Tablets (200 mg.) are supplied in bottles of 100.

New Fecal Softener

Molofac capsules, for the treatment and prevention of constipation, have been introduced by Squibb.

Molofac (Squibb dioctyl sodium sulfosuccinate) is a wetting agent to ease defecation by softening the stools.

Therapeutic doses, used even over prolonged periods, have produced no side-effects, according to the manufacturer.

Capsules, eash containing 60 mg. of dioctyl sodium sulfosuccinate in polyethylene glycol 400, are supplied in bottles of 30 and 100. They may be stored at room temperature.

Double-Spectrum Antibiotic

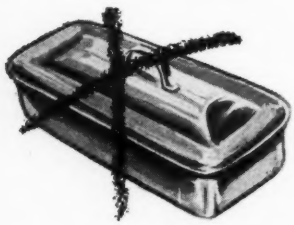
Gantrimysin Roche is a new double-spectrum antibacterial which provides Gantrisin—a single, soluble sulfonamide, said to be highly effective in both gram-positive and gram-negative infections — plus oleandomycin, the new antibiotic principally active against gram-positive bacteria.

The product is recommended by the manufacturer, Hoffmann-LaRoche, for use in a wide variety of bacterial infections, particularly respiratory, localized pyogenic, systemic and urinary tract infections caused by gram-positive and gram-negative microorganisms.

Albamycin-Penicillin Combination

Alba-Penicillin, a combination of penicillin and Albamycin, is now available from the Upjohn Co.

The antibiotic combination, which provides greater potency than the same or twice the concentration of either antibiotic alone, is also said to delay the development of resistant staphylococcus, and to have wider range of activity than penicillin or Albamycin alone.



For Patient Protection

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The U.S. Pharmacopeia—Revision XV[1]—lays down the following specifications for making petrolatum gauze:

1. Gauze and petrolatum must be sterilized separately:—
   a) Dry Gauze to be sterilized in an autoclave at 121° C. (250° F.) in an atmosphere of steam for 30 minutes.
   b) Petrolatum to be oven-heated to 170° C. (338° F.), then maintained at 165°-170° C. (329°-338° F.) for two hours.
2. Components must be combined aseptically.
3. The finished product must meet U.S.P. sterility tests[2].
4. Each petrolatum gauze unit must be packaged individually to maintain sterility.

(1) U.S.P. XV, pp 304-305. (2) U.S.P. XV, pp 841-846.

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Each capsule contains 250 milligrams of Albamycin (as novobiocin sodium) and 250,000 units of penicillin G potassium. The product is supplied in bottles of 16 capsules.

Prenatal Capsules

Hesper-C Prenatal, recently released by the National Drug Co., combines hesperidin and ascorbic acid with the vitamins and minerals usually prescribed during pregnancy.

It is recommended by the manufacturer as a precaution in normal pregnancies and a specific treatment in those with a history of previous spontaneous abortion.

Each capsule contains 100 mg. of Hesperidin Complex and 100 mg. of ascorbic acid, plus standard quantities of vitamins and minerals.

The product is supplied in bottles of 100 and 500.

Tetracydin Tablets

Tetracydin tablets, for treatment of minor respiratory infections, are now available from Pfizer Laboratories.

Each tablet contains 125 mg. of tetracycline hydrochloride, 120 mg. of phenacetin, 150 mg. of salicylamide, 30 mg. of caffeine, and 15 mg. of the antihistamine buclizine.

Tablets come in bottles of 24.

Aid to Cell Function

Adenoplex, a combination of adenosine with water-soluble vitamins, has been released by the U. S. Standard Products Co.

Each cc. provides: 25 mg. adenosine 5-monophosphate (AMP), 50 mcg. cyanocobalamin, 25 mg. niacin, and 10 mg. thiamine hydrochloride.

The manufacturer recommends use for relief of symptoms in varicose vein complications (ulcers, edema, pruritus, dermatitis), thrombophlebitis, phlebectomy, bursitis, tendinitis, osteoarthritis, polyneuritis, and also in pruritus ani, vulvae, etc.

The product should be injected intramuscularly, not intravenously. It is supplied in 10-cc. multiple-dose vials, each containing an excess to provide for 10 full injections of 1 cc. each.

Hypnotic-Sedative

Periclor, manufactured by the Ives-Cameron Co., is a chloral hypnotic-sedative.

It is said to provide rapid onset of sleep, and natural sleep of greater duration, with only one-third to one-half the amount of chloral hydrate required, and without any gastric upset, disagreeable odor, or after-taste.

Each capsule contains five grains of pentaerythritol chloral. Capsules are supplied in bottles of 36.

Dermatologic Ointment

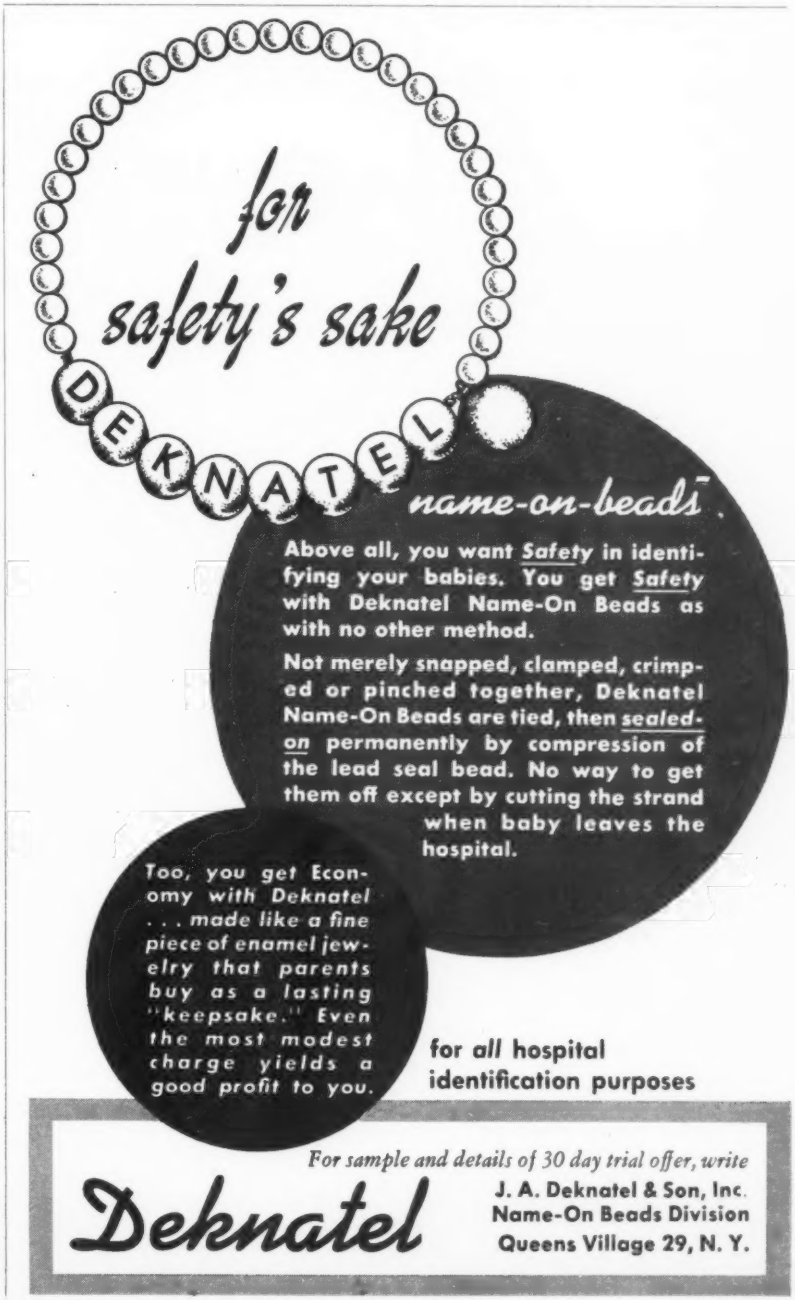
Selsunuf Ointment (selenium sulfide and hydrocortisone acetate, Abbott) is recommended by the manufacturer for treatment of marginal belpharitis, seborrheic dermatitis of the auditory canal or other limited areas of the body, and for allergic dermatoses where seborrheic involvement is suspected.

Broad-Spectrum Antibiotic

Tetrex (tetracycline phosphate complex), a new, broad-spectrum antibiotic compound, has been marketed by Bristol Laboratories, Inc.

It is described as a single antibiotic providing doubly high blood levels within one to three hours of administration.

Tetrex is available in bottles of 16 and 100 capsules. Each capsule is equivalent to tetracycline HCl.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clinical notes

Ointment Aids Wound Healing

Satisfactory results with local use of a cod-liver-oil ointment for healing various types of surgical wounds are reported by Grayzel and Schapiro in the October, 1956 issue of *Western Journal of Surgery, Obstetrics and Gynecology.*

Sixteen surgeons participated in the study of 706 surgical patients. Patients in the series were divided into these seven types of wounds: traumatic and infectious wounds; first, second, and third-degree burns; abdominal fistulae and wounds; chest wounds; pressure sores and ulcers; pilonidal cysts and sinuses, and anorectal wounds.

The ointment was soothing and made surgical care much easier and less painful, according to the authors. It protected the wound from mechanical and chemical injury and bacterial contamination, and promoted healing.

There was no need to irrigate wounds or to apply wet dressings after the initial treatment and application of the ointment. Wounds were sufficiently clean and had granulated so satisfactorily that they either healed spontaneously or could be closed by a suture or by skin graft.

Treatment of Constipation

Dioctyl sodium sufosuccinate is the most rational approach to the treatment of chronic functional constipation, says Friedman, writing in the *American Practitioner & Digest of Treatment* 7:1588 (October, 1956).

The over-all response to use of the fecal softener was favorable in 86 percent of 42 patients. Three of the six whose response was not satisfactory stopped the medication before proper dosage could be established.

Effective fecal softening is generally adequate to correct spastic constipation, but is often insufficient in atonic constipation. In such cases temporary simultaneous administration of a mild laxative on a "withdrawal" basis has proved quite satisfactory.

New Coating for Aspirin

Arthritics may now take large and effective doses of aspirin without gastric upset, Spreacher reports in the *American Practitioner and Digest of Treatment.*

A new coating treatment allows tablets to pass intact through the stomach, yet disintegrate quickly in the small intestine.

Say Remedies Have No Effect on Course of Cold

Citrus bioflavonoids with ascorbic acid have no effect on the course of the common cold, write two groups of researchers in a recent issue of the *Journal of the American Medical Association* (November 24, 1956).

In one study, by Tebrock, Arminio, and Johnston, 1,900 persons with colds were studied. One group received bioflavonoids alone; a second group got only ascorbic acid. Another group was given a combination of the two. A fourth group got placebos.

Upon re-examination, three days after their initial visit to the doctor, improvement among the four groups was almost identical.

The drugs had no effect in preventing colds in 89 medical students and nurses studied by Franz, Sands, and Heyl. However, they found that those taking ascorbic acid showed a more rapid improvement in their colds.

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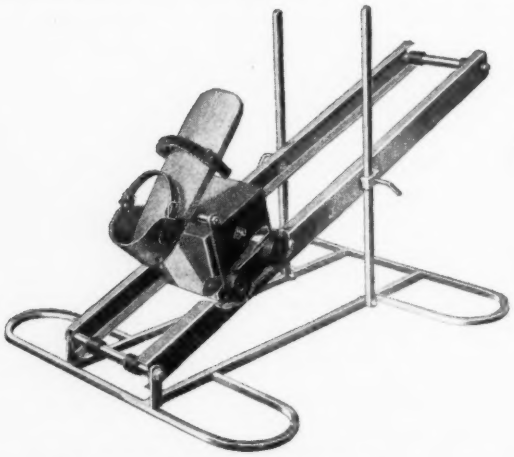

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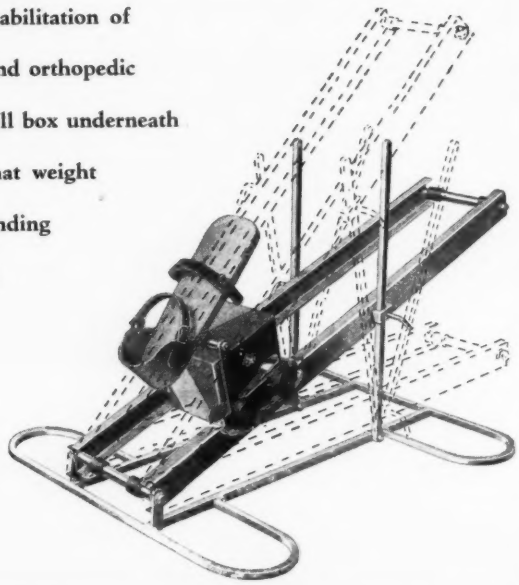

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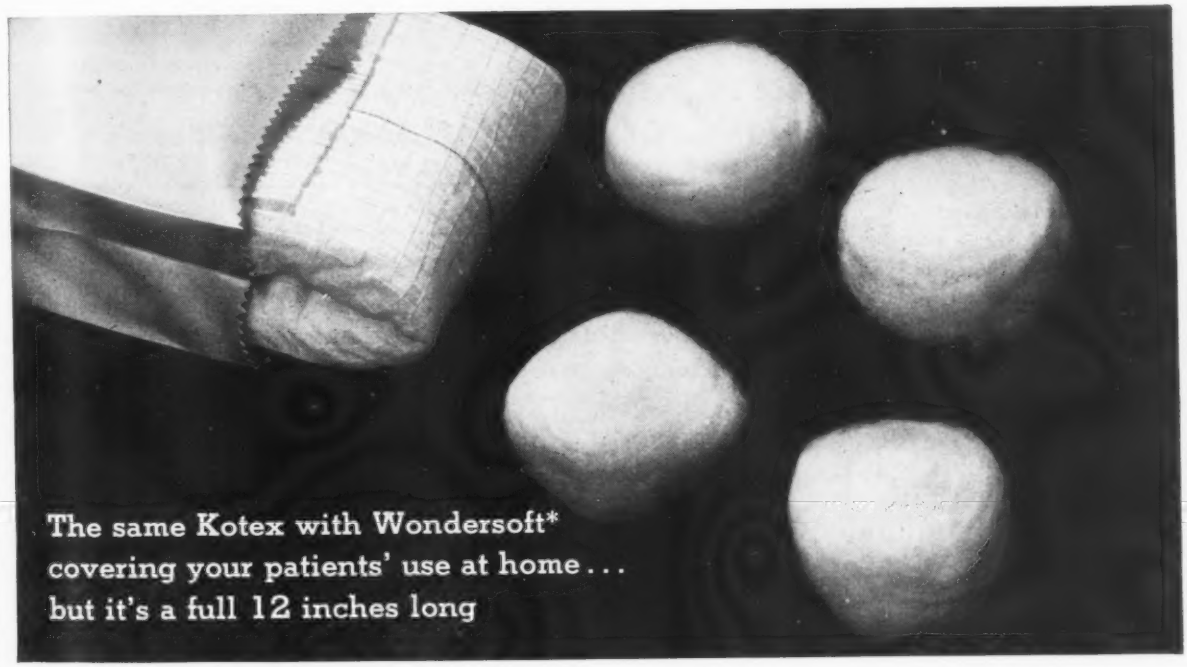

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Grossman, Leo, St. Francis Hospital, Miami Beach, Fla., "A New Specific Treatment for Perianal Dermatitis", Arch. Ped., 71:173-79, June, 1955

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(Continued from page 7)

aid of one plant by a local medicine man. Other plants are effective in treatment of hookworm and malaria, and one is used as an anesthetic for women in labor.

Very few dietary deficiency diseases were found among these primitive people. Main health problems stem from social disease, hookworm, malaria and typhoid. Cancer is unknown, and no heart trouble or hypertension has been reported. Their diet is largely composed of vegetables, fruits, and nuts, and a little milk.

Suggest Less Penicillin In Bottled Milk

The amount of penicillin in ordinary bottled milk should be reduced, according to C. C. McLean, M.D., in a recent issue, the *Archives of Pediatrics.*

Two federal surveys reported that small amounts of penicillin were present in six to 12 percent of a series of milk samples. Allergy specialists have agreed that a person "exquisitely sensitive could well react to this amount of penicillin." The antibiotic may cause severe, even fatal, reactions in individuals who have become allergic to it.

Suggested changes in Food and Drug Administration laws are: (1) cows should not be treated with slowly absorbed penicillin; (2) milk from a cow receiving penicillin should not be sold until six days after the last dose; (3) dairymen should be required to follow these regulations, and (4) makers of antibiotics for animal use should alert penicillin users.

Amino Acid May Cause Gray Hair in Rats

The amino acid lysine appears to play a role in the graying of hair in rats.

Studies at the University of California suggesting these conclusions are reported in the December issue of *Science.*

Possible correlation to graying of human hair has not yet been tested.

Include Hypnosis in Medical Schools, Says AMA

Hypnosis should be included in the curriculum of medical schools, says the American Medical Association's council on mental health, but its use for entertainment purposes should be discouraged.

Sixty-five doctors representing mental health committees of state medical societies issued the statement after two days of study at the conference held in Chicago.

High-level research in hypnosis should be encouraged because certain aspects "still remain unknown and controversial," the doctors said.

"The great danger in the indiscriminate application of hypnosis is that it may frequently delay proper diagnostic procedures by relieving disturbing symptoms," one doctor said.

Human Cells Survive Without Nuclei

Human cells can continue to live and carry on many functions after their nuclei are removed, it was reported at the National Academy of Sciences meeting in Bethesda, Md., by three physicians from the University of California Medical Center, San Francisco.

Human Hela cancer cells were used in experiments by T. Timothy Crocker, M.D., Lester Goldstein, M.D., and Relda Cailleau, M.D.

Working with microscope-sized knives and manipulators, the doctors separated the cells into two parts, one containing the nucleus, the other containing only cytoplasm.

Time-lapse motion pictures showed that cell parts lacking nuclei healed at point of cut, retained apparently normal cytoplasmic structure, and survived for as long as 40 hours.

Seek to Preserve Eye Tissue Longer

A way to preserve human eye tissues for more than the usual 36 hours is being sought by researchers at Duke University School of Medicine, Durham, N. C.

The studies center in the possibility of storage in special chemical solutions at temperatures 50° below zero.

Sculpture Tools Used In Skin Planing

A new technic in skin planing utilizes sculpture tools to completely or partially remove acne, chickenpox, smallpox, and shingles scars.

One tool is a steel rasp toothed at both ends with variously shaped working surfaces. Another is sold as a "corn and callus" instrument in notion stores.

Douglas Torre, M.D., New York dermatologist, described use of the new technic on 24 patients in the December *Archives of Dermatology.*

Although slower and requiring more work than the revolving wire-brush

(Continued on page 120)

Everyone

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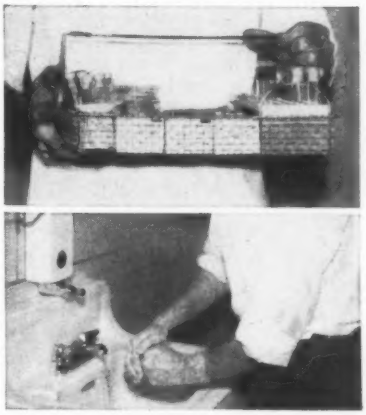

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1. Drill, V. A.: *Pharmacology in Medicine, McGraw-Hill Book Company, Inc., New York, 1954, p. 9/11.*

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(Continued from page 110)

understand these herself before she can satisfactorily tell others.

The patient often needs to learn correct procedures so that he can assist himself, either in the hospital or after he returns home. The student nurse may need to have planned demonstrations for the patient and also to have the patient practice and explain the procedure back to her to make certain he understands it. Because reading material may be useful, the student should be familiar with material in the library, and any pamphlets pertaining to the subject.

The patient may ask questions about all the procedures and care a nurse goes through in preparing and using supplies. A ready answer, cheerfully given, may be a means of teaching. The student nurse must establish rapport with a patient and appear interested in him before she can expect him to "bother" her with questions.

PATIENT EXPERIENCE

The patient is indirectly affected by the human relationship and the communication between members of the hospital staff. When their relationship is good, the patient can feel this by the attitude of those attending him. Therefore, a good relationship between the nursing staff and the central service personnel is important.

To establish such a relationship, each group must recognize the role its members play in the total care of the patient, and also the role played by members of the other group.

Each group must respect the efforts of the other group and be tolerant of mistakes which are characteristic to all humans (themselves included).

Each must strive to understand and correctly follow the method of ordering used in the hospital.

The nurse must be very distinct in conveying the exact quality and quantity of supplies she needs, and should allow enough time before use to obtain supplies, when possible.

The nurse should especially observe the practice of rinsing supplies immediately after use if the material on them will dry and cling to the supplies. Failure to do this constitutes a "pet peeve" of central service personnel.

Both should remember that the patient is the one who suffers when nurses and central supply personnel do not have a good relationship and a good communication system.

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(Continued from page 117)

technic, the new method is simpler, cheaper, and less subject to mishap, Dr. Torre said.

One advantage is that the scarred area can be evaluated during the operation, since the skin is not "frozen" by anesthetic, he said.

Cerebral Palsy Group to Experiment on Monkeys

Experiments involving deprivation of oxygen at birth will be conducted on monkeys, the American Academy for Cerebral Palsy has announced.

William F. Windle, M.D., National Institutes of Health, Bethesda, Md., said the U. S. has leased an island off Puerto Rico and bought the island's colony of 200 monkeys.

The study will attempt to determine what effect oxygen deprivation will have on the animals' future development.

Combine Two Drugs For Nausea of Pregnancy

A combination of two drugs which counteract the effects of each other is proving helpful in overcoming nausea in pregnancy.

Chlorpromazine has prevented nausea and vomiting in the past in many patients, but frequently increased the drowsiness common in early pregnancy, Bernard I. Coopersmith, M.D., writing in the *Journal of Obstetrics and Gynecology*, stated.

Addition of amphetamine combats lethargy, Dr. Coopersmith said. Of 150 patients in whom the combination was used at Chicago Wesley Memorial Hospital, 132 were improved, 16 were not improved, and two were classified as worse.

Develop Test for Cirrhosis Victims

A simple test which may prevent fatal hemorrhages in cirrhosis of the liver has been devised by two physicians from the VA Hospital, Pittsburgh, and the University of Pittsburgh Medical School.

The test checks blood pressure in the portal vein, the main entrance for passage of blood to the liver, according to Francis G. Jackson, M.D. and John L. Happel, M.D.

A hollow needle is inserted between the lower ribs on the left side until it enters the pulp of the spleen.

The blood is allowed to seep into the needle and pressure is measured similar to the method of recording blood pressure in the customary arm test.

When excessive blood pressure is revealed, possible hemorrhage may be prevented by disconnecting the liver vein and connecting it with the vena cava.

After testing 55 patients, the doctors believe the test a reliable index of blood pressure in the liver vein.

Hi-Fi Stethoscope Developed in England

A new high-fidelity amplifying stethoscope has been developed by a physicist and surgeon, King's College Hospital, London. It is described in the November 17 issue of *The Lancet*.

Ordinary amplifying electronic stethoscopes distort some frequencies of heart, lung, and joint sounds, the authors point out. The new device produces no background noise, and has frequency controls to bring out sounds that might otherwise be masked, such as faint fetal heart sounds.

The device may be used by physicians with good hearing as well as by those with impaired hearing.

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American Safety Razor Corp. 97-103
American Sterilizer Co. 4, 69
The Gordon Armstrong Co., Inc. 62
Austenal Laboratories, Inc. 72
C. R. Bard, Inc. 8
Bard-Parker Co., Inc. ..... 3rd cover
Bauer & Black 115
Don Baxter, Inc. ..... opposite page 80
Becton, Dickinson & Co. ..... 2nd cover
Wilmot Castle Co. 111
Chesebrough-Pond's, Inc. 112
Ciba Pharmaceutical Products, Inc. 11, 118
Classified 67
Clay-Adams, Inc. 5
Cutter Laboratories 82
J. A. Deknatel & Son, Inc. 113
DePuy Mfg. Co. 94
Ethicon, Inc. ..... opposite page 32
Everest & Jennings, Inc. 70
C. B. Fleet Co., Inc. 73
Flex-Straw Co. 42
Gomco Surgical Mfg. Corp. ..... opposite page 104
Harold Supply Corp. 36
Hausted Mfg. Co. 1
Hill-Rom Co., Inc. ..... opposite page 16
Hoffmann-La Roche, Inc. 104
Homemakers' Products Corp. 116
HOSPITAL TOPICS 18, 32, 37, 88
Huntington Laboratories 117
Kaye Thermometer Corp. 35
Kremers-Urban Co. 80
Lakeside Laboratories ..... 4th cover
Lehn & Fink Products Corp. 39
Eli Lilly and Co. 6
MacBick Co. 106
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MacMillan Publishing Co. 119
Mary A. Johnson & Associates (classified) 67
Mead Johnson ..... opposite page 48
Medical Employment Service (classified) 67
Meinecke & Co. 15
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